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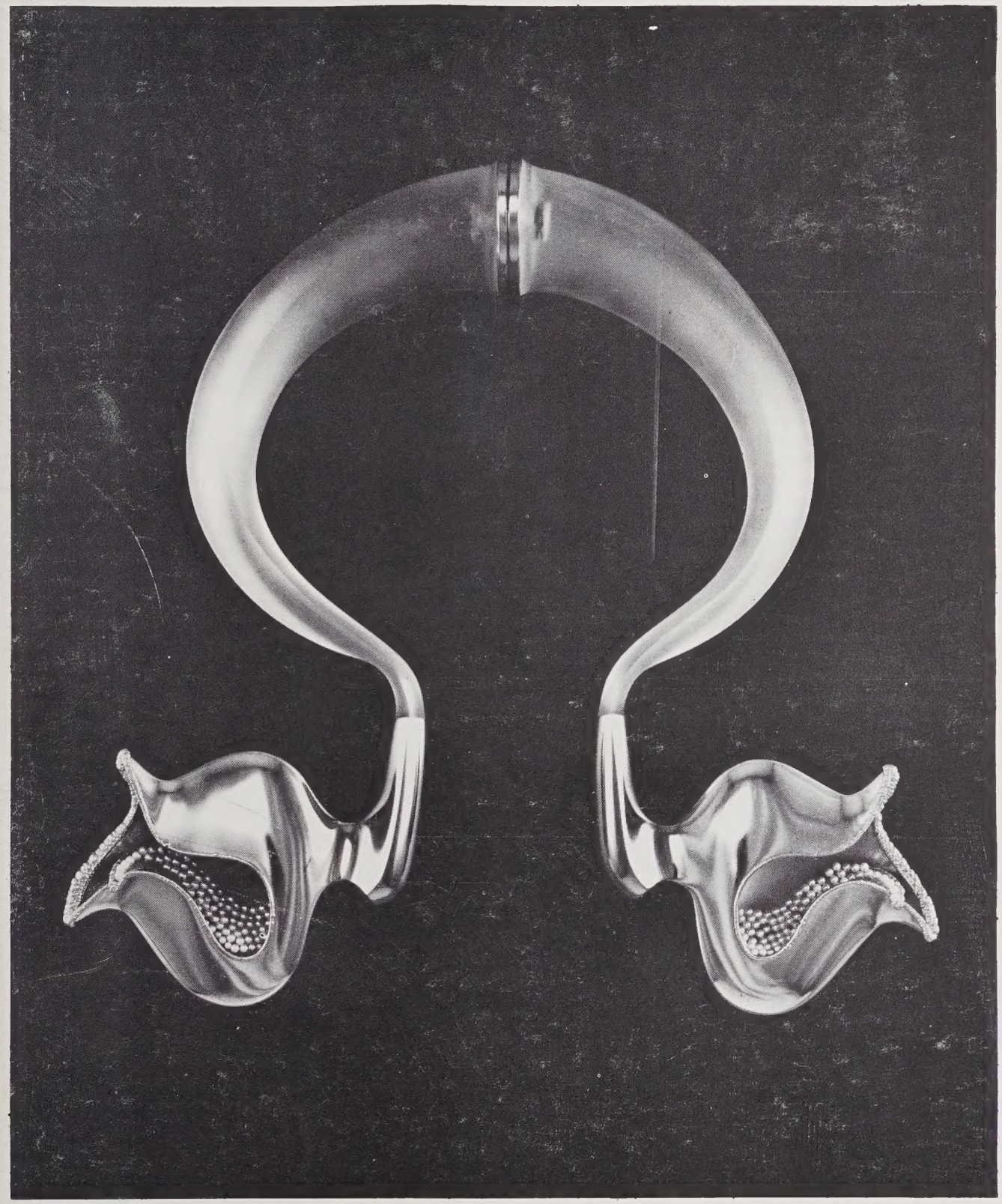
THE SOCIETY OF
NORTH AMERICAN
GOLDSMITHS

GOLDSMITHS JOURNAL



Price $3.00
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December 1978

Stanley Lechtzin, Torque, silver gilt, acrylic and pearls

REVIEWS

EXHIBITION REVIEWS

MICHAEL ROWE: OBJECTS IN METAL, November 22, 1978 - January 13, 1979, Crafts Advisory Committee, London, England

Boxes are about boxes and boxiness — so says Michael Rowe of the objects to be shown in this Christmas exhibition. He explores the theme of the special qualities of the simple cubic form, in different metals, using different perspectives, retaining in each object an element of function, but sliding confidently into the realms of sculpture.

An early piece, the condiment set, a surrealist silver landscape of buildings and trees commissioned for a jubilee exhibition, is a transitional piece in terms of the new objects in this exhibition. Michael Rowe has moved away from scaled-down landscapes and references to architecture, and now concentrates on simpler containers on a 1 in 1 scale.

Michael Rowe works with sheets of metal: silver, copper, bronze, and brass. He rejects casting, as this process would prevent him from obtaining the sharp-edged angular effect he desires. He often emphasizes a surface or edge in a contrasting metal, or solders fine strips of different metals together to create a striped finish. Precision craftsmanship is involved and each piece is first drawn and then a cardboard mock-up is made. The completed boxes often give a trompe d'oeil impression of being two-dimensional, as the cubic form seen in an isometric projection becomes squashed or elongated as the right angles become oblique. But in most of the pieces the shift to oblique is very slight and Michael Rowe says that "the aim is to make more potent the three-dimensional space they occupy." He thinks the challenge of making a functional object keeps a foothold on reality, although these foot-high containers are more likely to be regarded as pieces of sculpture.

The boxes range from a delicate silver piece, chased with leaf-pods forms growing from the lid, to a massy brass object with just the faintest hint that it could be a container. Altogether there will be fifteen pieces on display, all of which have been made over the last two years. Michael Rowe normally works only to commission, but some of these pieces will be for sale. Also in the gallery will be the free pencil sketches he makes when planning his work.

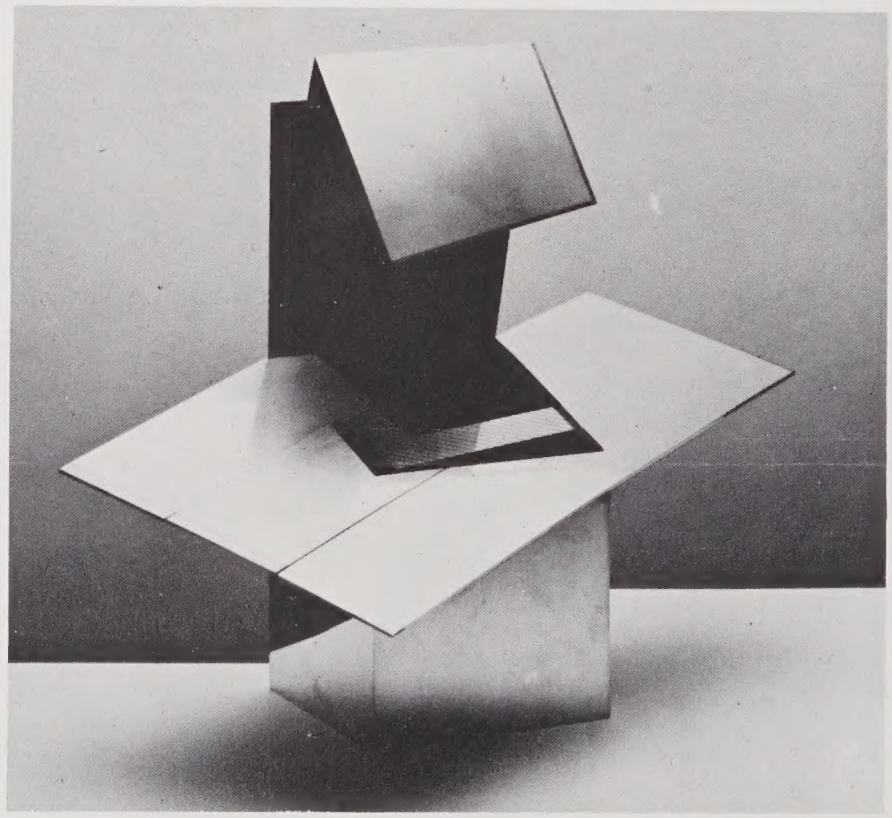
All the pieces are made from sheet metal. Joints are mitred whenever possible to eliminate solder showing. The major problem in box work is the distortion of the sheet which occurs during the heating operations. Flat sheet writhes under the soldering blowtorch and a good fitting joint can become a quarter inch gap under certain conditions. The problem is reduced by using as large a flame as possible to ensure even heating, and by applying discreet pressures during the soldering operations. Unavoidable distortions are later removed by planishing with hammers.

The strips which edge some of the pieces are soldered on, and the silver and copper striped areas are made by soldering strips together, first into blocks of about ten, and subsequently soldering the blocks together to form a surface.

The pod forms are chased silver sheet. Each pod consists of halves soldered together. The chasing is done from both sides of the sheet, each side being reversed about six times on the pitch to achieve the tightness of groove.

All polishing is done by hand using graded carborundum papers and finally polishing papers, about eight grades in all. This produces a rich surface, unobtainable by mechanical wheel polishing, and also maintains the crispness of the edges.

The copper and brass pieces are patinated. This is done by mixing chemicals, using recipes whose main constituents are sulphates, nitrates and chlorides, and brushing them onto the piece over a period of time until the required build-up of colour is achieved. The surface is finally sealed and polished with beeswax. ■



Michael Rowe, box, silver & copper —photo by David Cripps

GELLATLY GALLERY

A fascinating variety of European and Asiatic objects is on permanent exhibition at the National Collection of Fine Arts in Washington. This collection is part of the 1600 paintings and art objects given to the Smithsonian Institution in 1929 by John Gellatly of New York, for whom the gallery is named.

A collector of American art as well as European and Asiatic works of all kinds, Gellatly wished to show his diverse possessions together as examples of comparable esthetic sensibility — and to confirm his view that the creations of what he considered an American renaissance in the late 19th and 20th centuries were the equal of any.

The European and Asiatic objects span many centuries, and range in date from a bronze ritual vessel of the Shang dynasty (11th century B.C.) to a diamond-studded enameled box which Catherine the Great presented to Gregory Orlov in recognition of his role in the coup which brought her to power. An impressive and finely detailed work, it includes scenes of her assumption to the throne.

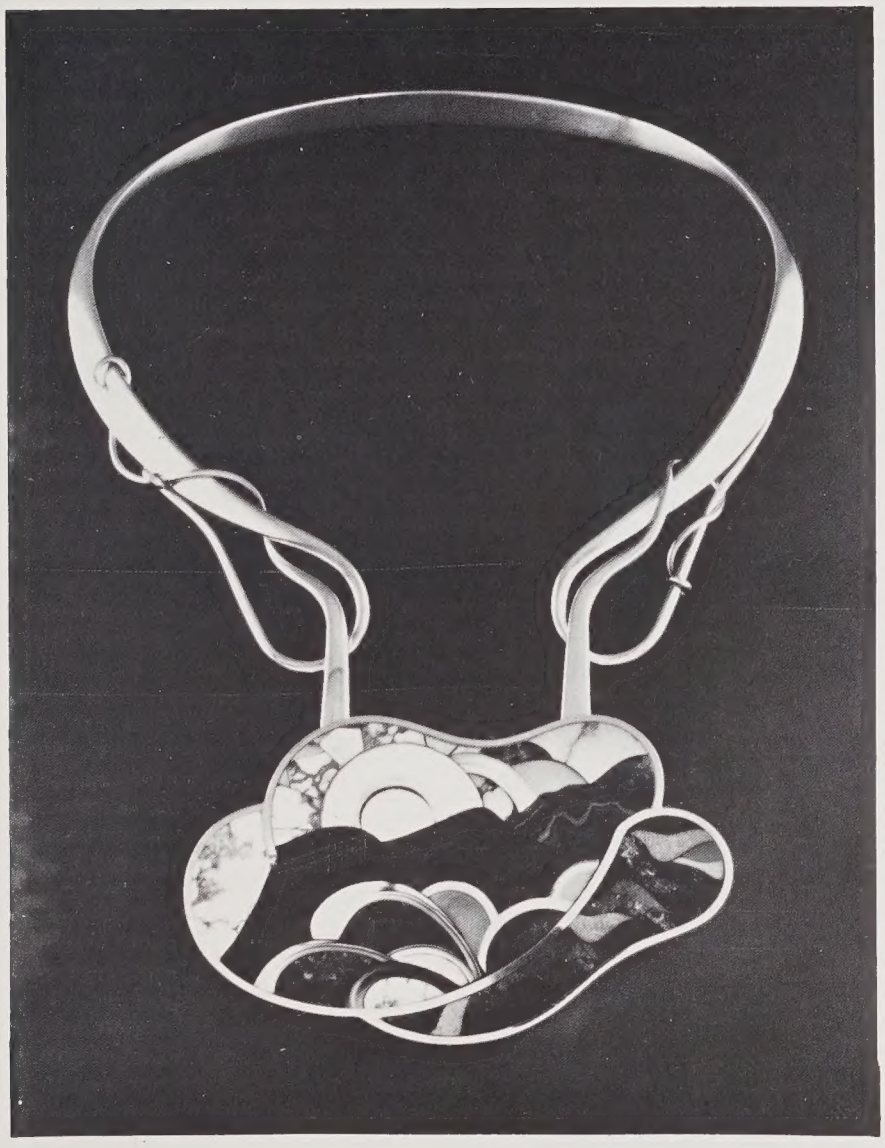
The decorative object considered the finest in the collection is a Renaissance baroque pearl pendant in the

Earrings, gold, Roman (Syria-Palestine), 2nd-3rd century A.D. photo credit—National Collection of Fine Arts

ULLE LEPASAAR

by Kay Eddy

The Elements Gallery — October 24-November 18, 1978



Ulle Lepasaar, "Landscape Necklace," sterling, turquoise, malachite, stellanite, chrysachola, lapis and assorted shells, 1977

"Singular Expressions" in clay, wood, fiber and jewelry captivated visitors to The Elements Gallery.

Ulle Lepasaar, whose one-person show of jewelry is concurrently displayed in the small gallery, explored color in a variety of media: painting, collage and silk screen, before turning to precious metals.

With her painting background, she was inspired to use stones as colors to create miniature landscapes and abstractions. She has created exquisite mosaic compositions using turquoise, jet, black, white and red coral, ivory, lapis, malachite, shell, pipestone, serpentine as her palette.

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"THE GOLDSMITH/78" OPENED AT PERMANENT COLLECTION GALLERY

by Patricia Heikenen and Betty Runyon

"The Goldsmith/78", an exhibition of 187 examples of the art of the contemporary metalsmith, opened on November 9 at the Permanent Collection Gallery of the Minnesota Museum of Art, 305 St. Peter St., St. Paul. The exhibition is sponsored by the Society of North American Goldsmiths (SNAG), in cooperation with the Minnesota Museum, and will remain on view through December 29, 1978.

Thirty-nine metalsmiths from approximately 70 SNAG members who submitted work were chosen to be represented in the exhibition. Each was permitted to enter six pieces for exhibit. Selection was made by a three-man jury composed of Paul Smith, Director of the Museum of Contemporary Crafts, New York City; metalsmith Albert Paley of Rochester, NY; and metalsmith Ronald Hayes Pearson, who works in New England.

The metalworks reveal a great diversity of materials and techniques, and are individual expressions of the craftsmen. They range from very functional jewelry pieces — rings, brooches, and pendants — to objects which have no specific function and must be viewed as sculpture.

Materials include gold and silver, brass and copper, as well as non-metallic plastics, wood, semi-precious stones, and even fabrics. Techniques range from the very traditional gold- and silversmithing techniques of casting, fabrication, engraving and etching to new processes utilizing photographic imagery, electroforming and electroplating. There is an evident departure from a polished, mirror finish to a very textured surface. The inherent color of the materials, both metallic and non-metallic, result in a graphic design statement by the artist which is related to the technical process employed.

In recent years there has been a trend toward a reduction in the scale and size of works. A more delicate, sensitive format has developed, combining with the impressive technical skill which has been long evident. Now, pieces are becoming more refined and sophisticated aesthetically. Jewelry pieces conform to the contour of the human body, and respond to the movements of the wearer.

The metalsmith's art as demonstrated by members of the Society of North American Goldsmiths was previously shown in two earlier "Goldsmith" exhibitions at the Minnesota Museum of Art. "The Goldsmith/70" was presented by the Museum in cooperation with the Museum of Contemporary Crafts, New York City, and was also exhibited there. "The Goldsmith/74" was presented jointly by the Minnesota Museum of Art and The Renwick Gallery of the National Collection of Fine Arts, Smithsonian Institution, Washington, DC.

After the close of "The Goldsmith/78" in St. Paul, a group of 135 pieces will be packed for travel to Europe. They were selected in a recent visit to St. Paul by Dr. Fritz Falk, Director of the famous Schmuckmuseum in Pforzheim, Germany, which houses one of the largest collections of historic jewelry in the world. The Schmuckmuseum is located in the northern part of the Black Forest region in an area renowned for its jewelry production. The exhibition of metalworks will open in Dr. Falk's museum in April, 1979 and will later go to museums in Belgium, Holland, Switzerland, Norway and Finland, ending its tour at the Goldsmiths Hall in London, England. ■

JEWELRY INSPIRED BY NATURE

Gallery of Contemporary Metalsmithing, Rochester, NY

by Deborah L. Norton

Nature has always been an inspiration for artists, and the goldsmith is no exception. From ancient Egypt, where the recorded history of jewelry making began, we find numerous depictions of the lotus flower, the falcon, and the scarab finely wrought in gold and precious stones. However, these designs were not merely arbitrary, they were dictated by the religious symbolism of the culture. It was left to the ancient Greek goldsmiths to develop a secular decorative art that was truly inspired by nature. Flowers, leaves, animals and the human figure were depicted in both realistic and abstracted forms in jewelry that adorned the aristocratic Grecian.

Today's goldsmiths are actively making their own contribution to this ancient tradition. In the show "Jewelry Inspired By Nature" at the Gallery of Contemporary Metalsmithing in Rochester, NY, the work of five diverse metalsmiths — Lynda Watson, Beverly Sahn, Deborah Aguado, Jon Hall and Pat Flynn — was brought together to explore this topic. Unencumbered by religious dictates or societal demands, the artists of today are free to express their ideas in their own individual ways.

Lynda Watson's neckpiece is a joyous landscape, no doubt influenced by her native California. The delicate forms of the center panel, fabricated in plexiglas, are reflected on either side by similar shapes worked in metal, causing the viewer's eye to wander hypnotically back and forth over the whole. Sophisticated techniques and intricate patterns work together to produce a truly unique piece of jewelry. Beverly Sahn's anemone brooch is in sharp contrast to Watson's work in its simplicity. She has seemingly formed petals for her anemone by peeling back the silver to reveal a multitude of stones elegantly set in high bezels. Deborah Aguado has taken a more minimal approach in her jewelry. Sharp geometrical angles fabricated in silver are an exciting contrast to the subtlety inherent in the dendrite agates she uses to complete her pieces. The precise craftsmanship in Jon Hall's small crab brooch works to enhance the delicacy of the curves in this piece. Unlike Hall's realistic approach, Pat Flynn interprets nature in a more abstract vein. His asymetrical broochs are highlighted in each case by a single stone.

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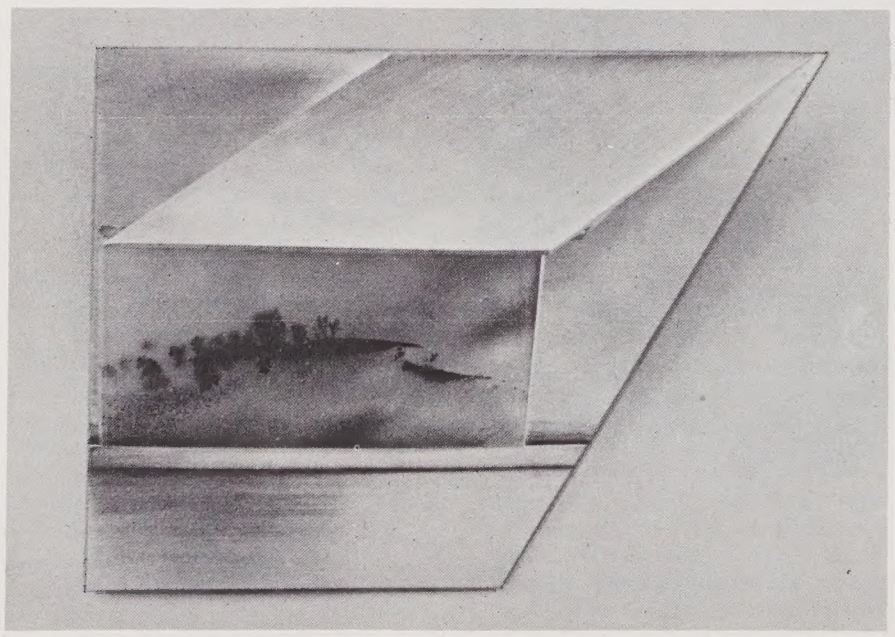
Deborah Aguado, sterling pin with agate



NORTHEAST CRAFT FAIR

by Sybil Robins

—sponsored by American Craft Enterprises, a subsidiary of the American Crafts Council, Dutchess Co. Fairgrounds, Rhinebeck, NY; wholesale days (open only to retail store buyers, galleries, museum personnel, etc.) June 20-21; retail days (open to the public) June 23-25—

The 1978 Northeast Craft Fair was held for the sixth consecutive year in the buildings and tents of the Dutchess Co. Fairgrounds. The 13th annual fair, attendance has increased and facilities improved each year. Over the past six years, the general tone of the fair and its exhibitors has remained high in quality. Applicants are juried by slides in a well-conceived and scrupulously-administered system. The jury is comprised of seven craftspeople, each representing a different crafts medium (in 1978, Carrie Adel for metal), and two shop or gallery owners (of which I was one this year), all elected by the exhibitors of the previous year.

Applications for the 500-exhibit spaces are limited to residents of the ACC's northeast region. This year, however, for the first time 25 of these spaces were set aside for craftsmen who had participated in the ACE's Pacific States Fair the previous summer. Nearly 2,000 applications (almost 10,000 slides) for the 500 spaces were considered, with no set quotas for the proportion to be selected in each medium. Approximately one-fourth of the booths went to metalsmithing through this self-selecting process, including the categories of knives, forged iron (blacksmithing), gold and silver jewelry, enamels, holloware and sculptural metal.

At the fair, in the jewelry category, Joel Besnard showed bold graphic sterling jewelry in a witty and unique setting, with his work displayed on flat lucite panels balanced between two shiny new aluminum stepladders, all brilliantly spotlighted.

Outstanding creative works in constructed gold jewelry incorporating bone, amber and colored stones were presented by Michael Leininger in addition to his production silver jewelry. Consistently fine pieces of silver and gold jewelry in her distinctive personal style were shown by Glenda Arentzen. Outstanding west coast jewelry designers new to the Rhinebeck event included Colette, with imaginative fantasies (often erotic in subject matter) in cloisonne; Ellen Dimsdale, with fine designs and creative use of materials; and the ubiquitous Hank Cantor.

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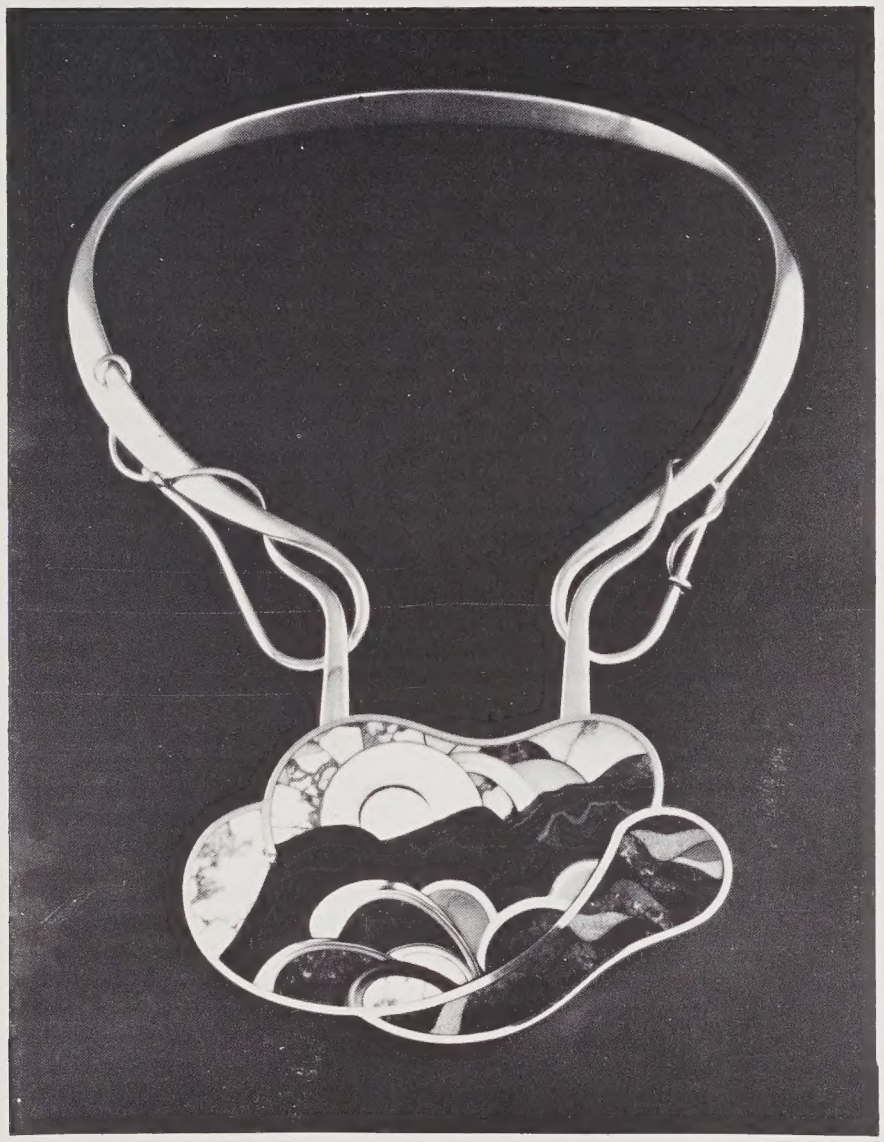

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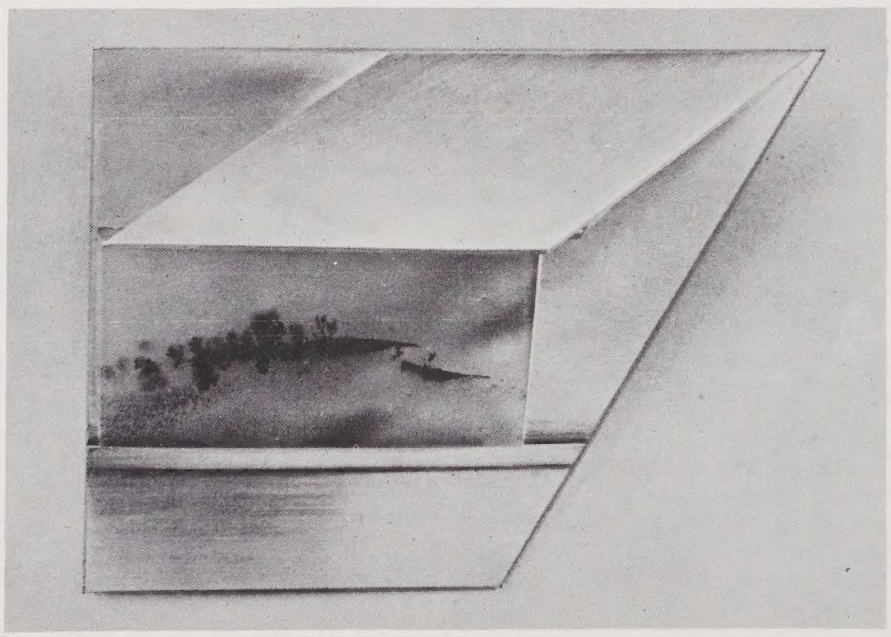

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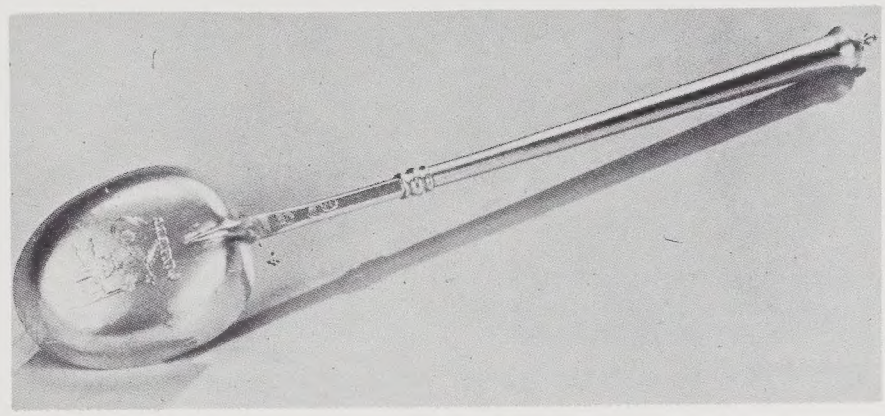


TOUCHING GOLD AND SILVER
Goldsmiths Hall — London

The crown of pure gold worn by the Prince of Wales for his investiture at Caernarvon Castle was on public view again in Touching Gold and Silver, an exhibition celebrating 500 Years of Hallmarks which was shown at Goldsmiths' Hall from November 7 to 30.

The crown was a gift from the Goldsmiths' Company to H.M. The Queen, who lent a paperweight specially hallmarked for her Silver Jubilee, while other rare treasures came from the Ashmolean and British Museums, Chatsworth, Oxford and Cambridge colleges, City Livery companies, the National Trust, the Royal Mint, and the Victoria and Albert Museum.

HALL MARKS AND DATE LETTERS—In 1300, Edward I passed a Statute requiring English goldsmiths to make their wares conform to "the touch of Paris" (80% pure gold) or be "no worse than money" (coins were made to the sterling standard of 92.5% purity) for silver. In 1478, Edward IV made the Goldsmiths' Company responsible for any shortcomings by their Touch Wardens, so they appointed a Common Assayer and laid down that every article must be brought to Goldsmiths' Hall for testing, where it was "hall marked" with a leopard's head and a letter of the alphabet which changed annually on St. Dunstan's Day.

When the letter U had been reached, a new cycle began with a different style and though hallmarking was originally devised as a form of consumer protection, the "date letter" has since acquired at least a secondary value in dating antique silver, and Touching Gold and Silver included at least one piece of silver for each of the 26 alphabets marked in London from 1478 to the present day. The earliest fully marked example was the Nettlecombe chalice and paten with the letter B for 1479, but the exhibition included secular as well as eccelsiastical plates. There were drinking vessels, spoons, forks, candelabra, tankards, tea urns, and chocolate pots, wine cisterns and everything from a powder flask or an oil lamp to a shawl pin and a scale model of Eton College Chapel.

COINS & MANUSCRIPTS, FAKES & FORGERIES—Extracts from laws which have changed the hallmarking system were on display with contemporary coinage, including gold and silver coins minted by Charles I at Oxford and seige coins from Newark and Scarborough. Books and manuscripts in the exhibition included the Book of Ordinances of the Goldsmiths' Company for 1478, which records the duties of the first Common Assayer and the oath he took.

There was also a selection of fakes, forgeries and articles made in base metal which included a brass wedding ring with fake marks, pseudo marks on pewter, imitation marks, "duty-dodgers", which evaded the 18th century duty on wrought silver, and examples of antique silver altered from spoons to forks or from a basin into a teapot to increase the market value.

HALLMARKS TODAY—The Assay Office is still in Goldsmiths' Hall, where it now tests one million articles a month using the cupellation method for gold, titration for silver and atomic absorption spectrophotometry for platinum. Examples of more traditional techniques such as the touchstones used for gold were included in the exhibition, but staff from the Assay Office provided a continuing demonstration of silver being assayed and struck with the current hallmark which includes the letter D for 1978.

Full details of all the exhibits are included in the illustrated catalogue, price £3.00, together with an account of hallmarking and the Goldsmiths' Company as well as histories of the other Assay Offices. ■

Example of hallmarking system—PL for maker Pierre Plastel, leopard's head crowned; lion passant guardant; f for 1701

Joseph Ward, Teapot, Chocolate Pot and Kettle, 1719, h 27 cms (chocolate pot) (below)

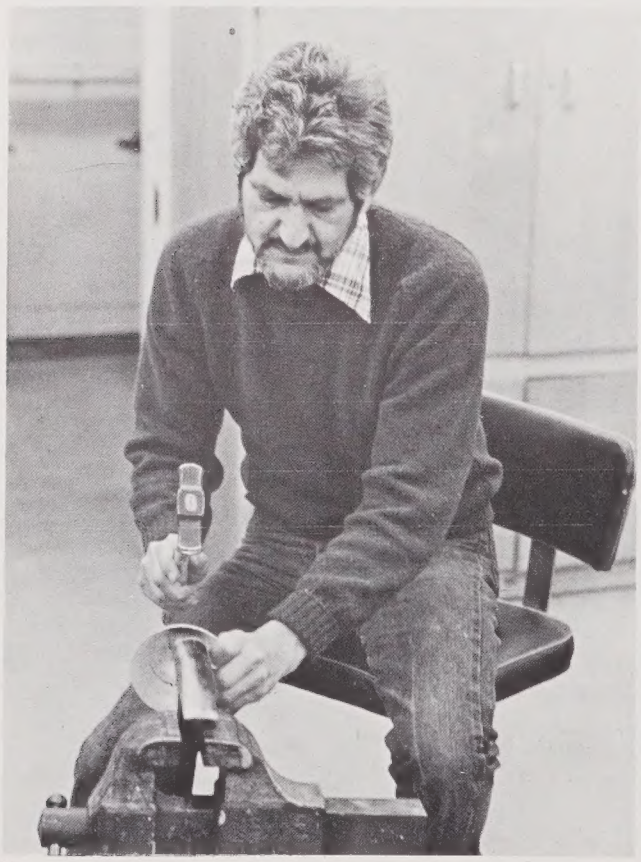
PROFESSORS WHO PRODUCE

by Sybil Robins

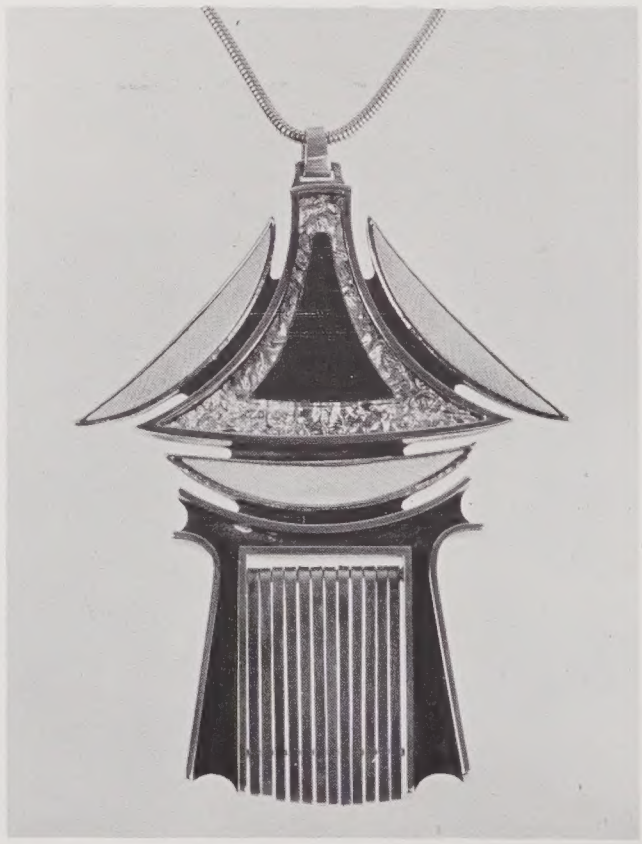
"Professors Who Produce" at The Craftsman's Gallery, Scarsdale, NY, presented works in clay, wood, blown glass and fiber, as well as metal, by 15 teaching crafts artists who are professors at U.S. colleges and who have instructed and guided some of today's active young artisans.

Metalsmith Kurt Matzdorf, professor of gold- and silversmithing at State University of New York at New Paltz, showed ceremonial chalices, candlebra and spice boxes in sterling and parcel gilt, many embellished with pearls or colored stones.

Dominic DiPasquale, a faculty member of S.U.N.Y.-Oswego since 1963, and author of "Jewelry Making Techniques" and the forthcoming "Jewelry Design" (both Prentice-Hall), presented imaginative jewelry and holloware, Included were a unique, constructed "zipper" neckpiece of sterling and elephant ivory, as well as more traditional pendants, and a beautifully designed single unit salt and pepper shaker of sterling with ivory and ebony to denote the two condiments. ■



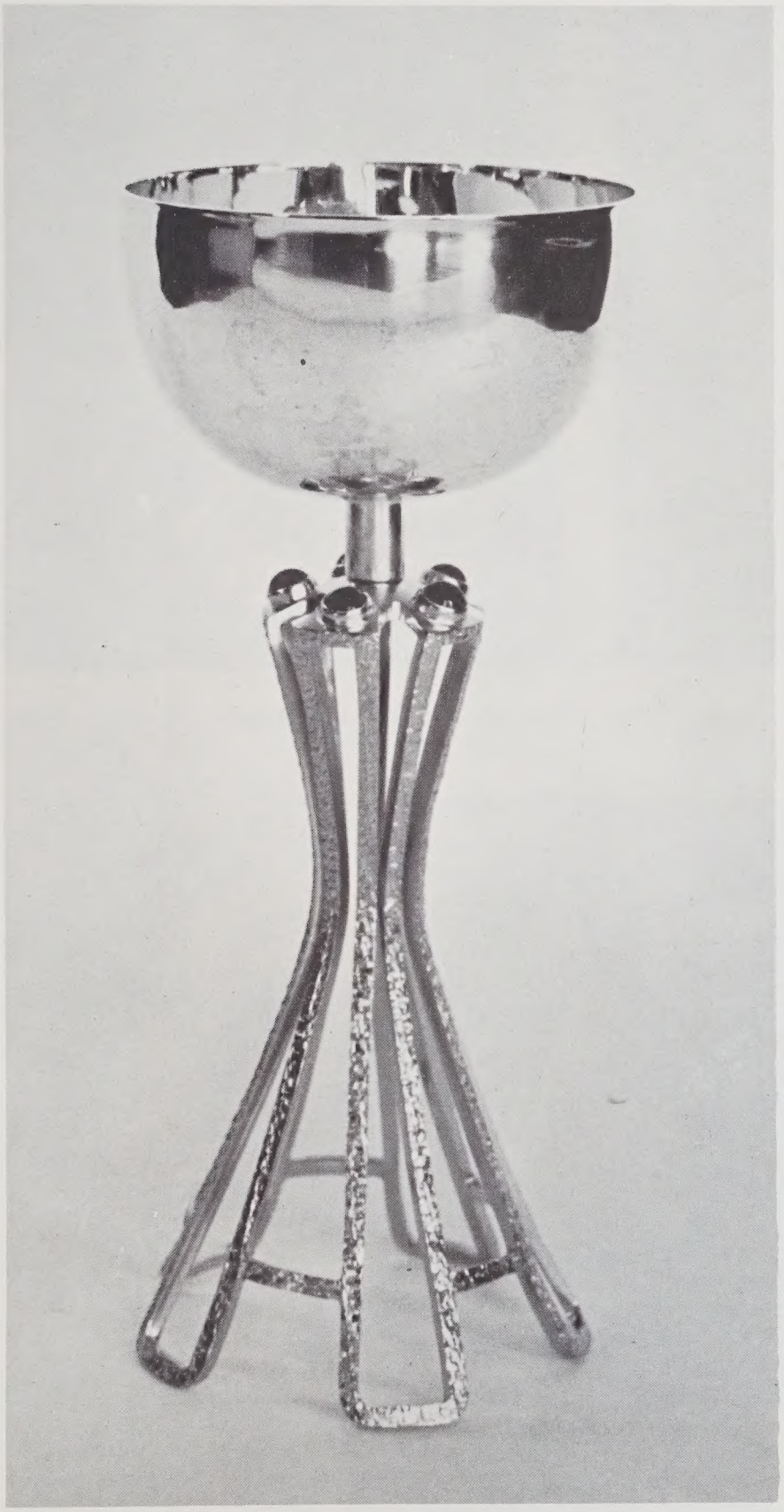
Kurt Matzdorf, professor at State University of N.Y. at New Paltz



Kurt Matzdorf, Wine Chalice, sterling and partial gilt, amethysts, 6½" h (right)

Dominic DiPasquale, professor at State University of N.Y. at Oswego (far left)

Dominic DiPasquale, "Pagoda Pendant", sterling, ebony, mastadon ivory



CENTER FOR CREATIVE STUDIES CONDUCTED DEMONSTRATIONS

Weekend visitors to "Peru's Golden Treasures" at the Detroit Institute of Arts had an added attraction to stimulate their interest and answer some of their questions regarding the techniques used to fashion the golden artifacts.

Demonstrations of the metal arts of repousse and chasing were held at the Center for Creative Studies (CCS) College of Art and Design, from noon on October 28-29, November 4-5, and 18-19, and December 2-3. Each demonstration was conducted by a visiting metal artisan. The Center is a half-block's walking distance from the Detroit Institute of Arts.

Repousse and chasing are the major techniques used by the master craftsmen of ancient cultures to fashion decorative and utilitarian objects from the abundant gold of Peru. These techniques have been used on metal since the third millenium B.C. Because the processes are so time-consuming, repousse and chasing are not presently popular techniques in metalsmithing or jewelry, but there is enormous personal satisfaction to be gained by the artist from the close working and reworking of the metal inherent in the process.

The appeal of these techniques is that they neither remove any of the metal nor affix objects to it to create a design. Besides the aesthetic appeal of the movement of light and shadow across raised and lowered surfaces, the curves and domes of these objects enable them to withstand hard and constant use.

Robert Fisher, enameling instructor for the Birmingham-Bloomfield Art Association, conducted the October 28-29 demonstration; Phillip Fike conducted the November 4-5 demonstration; Mark W. Read conducted the November 18-19 metals demonstration; and Frederick Hunter conducted the December 2-3 demonstration.

The metal demonstrations at the Center were a joint effort of the CCS Crafts Dept. and the Education Dept. of the Detroit Institute of Arts. ■

SECOND ANNUAL AMERICAN CRAFTS FESTIVAL (LINCOLN CENTER, NEW YORK CITY)

by Sybil Robins

—July 1 & 2, 1978; sponsored by the American Concern for Artistry and Craftsmanship in cooperation with Con Edison (the New York gas and electric utility company) and Lincoln Center—

Despite attempts to capitalize on its distinguished setting (the plaza between the buildings of Lincoln Center for the Performing Arts — the home of New York's Metropolitan Opera, Philharmonic Orchestra, ballet, Julliard School of Music, etc.) and the lofty-sounding name of its sponsoring organization, painted rocks, potted plants and tie-dyed toddlers' undergarments set the tone of this festival.

Nearly lost amidst the morass of mediocrity, Californian Hank Cantor's beautifully-wrought gold jewelry set with semi-precious stones, ivory or with cloisonne by Carol Scheinbach, was a welcome treat. Nearly all of the other metalwork at the fair, as well as the work in other media, ranged from low-quality street fair merchandise to modest production work. Could this hodgepodge have been selected by a jury to "show off first-rate samples of the burgeoning crafts industry" as their blurb in a New York newspaper reads? Little of the work on view showed the remotest relationship to the formidable title of the sponsoring organization. ■

SCHWEIZER SCHMUCK '78
(SWISS JEWELRY '78)

by Max Frohlich
(translated by Alan Revere)

In assessing the value of jewelry, there are two things to consider: the material value compared to the aesthetic value. The material value is unimportant until the creativity of the maker is involved. The materials, no matter how costly, are merely the medium of the artist to execute his design. The value of the work lies ultimately in his hands and is not merely its "investment value."

What is jewelry? It is a means to make one more attractive, improve the beauty, adorn, flatter, accentuate, enrich and please the wearer (usually female). The answer is deeper, but involves a lenghtly treatise not merely a brief response. In the role jewelry plays on the wearer, the materials only play a subordinate role to the design "gestalt."

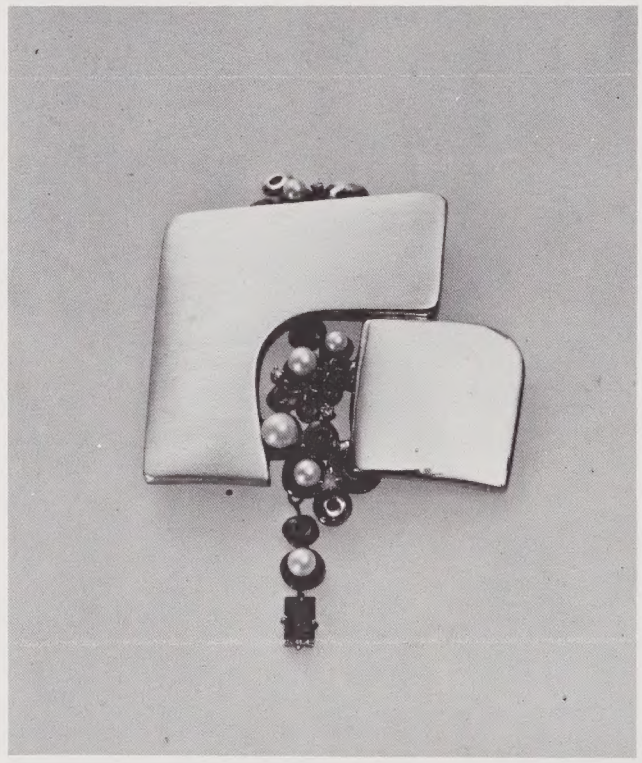
The importance of the "creator" is most significant; the man whose hallmark it bears is responsible for its effect and success.

The exhibit here is a portfolio of "workshop jewelers." Their work is predominately designed and executed as a personal experience by one man in one small workshop.

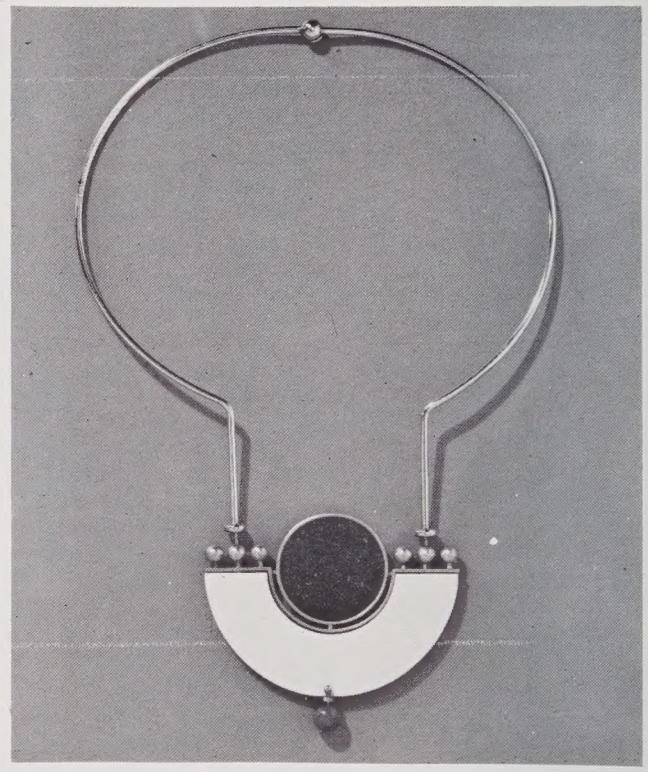
Is it "handwork" or "craft?" The exhibit represents jewelry as a craft with a shot of art. Why is art here? Why is it "art?" There are questions of the unsophisticated consumer oriented public.

What is the place of "art" in jewelry? This is the job of the exhibitor — to select and edit for his own purpose. This show represents Swiss jewelers born between 1898 and 1953 — three generations with a fantastic range of experiences and influences — Art Nouveau, wars, crises, panics, good times, bad times and new times. Successful and obedient jewelers, inventive and risky jewelers, traditionalists, revolutionists, and adventurous jewelers — they all represent the Swiss experience.

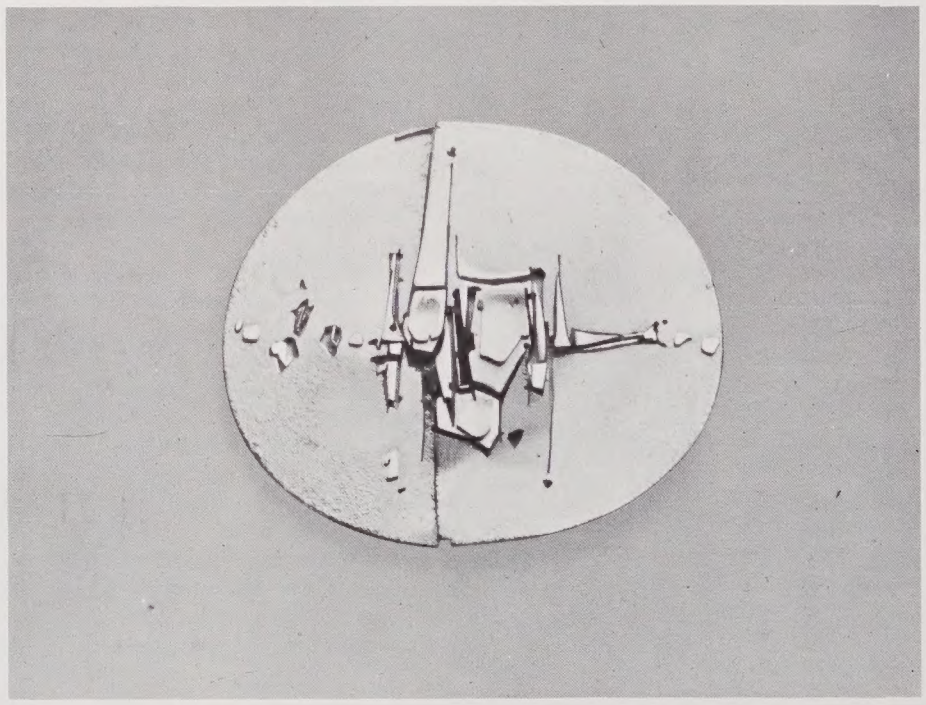
In looking at the work of 48 current Swiss jewelers, one sees not their ages but the mark of today's times. ■



Fritz Loosli, Necklace, gold, ivory, lapis & coral



Frank Bottger, Brooch, silver, emeralds, pearls, 9.5 cm h



Othmar Zschaler, Brooch, gold, 5 cm w

BARBARA MAIL

by Kay Eddy

The Elements Gallery — November 7-25, 1978

Barbara Mail's finely wrought pendants, boxes, pins and wall pieces are autobiographical. They emerge, she says, "almost like pages in a diary, depictions of poignant encounters with other sensitive beings . . ." which have inspired "visual representations" in the form of the pieces exhibited at The Elements Gallery. "Each is a story, or a dream, some full of pain but not without pleasure, very much a part of me."

"Ashley's Peace" is a pendant with references to "Gone With The Wind." A nostalgic personal comment that "time heals all wounds," it incorporates an antique watch face, a tintype and cloisonne enamel in 14k gold and sterling silver.

A small container for holding non-tangible objects, "Reliquary for Shooting Stars and Other Lost Lovers" symbolizes for the artist the person with whom she first saw shooting stars . . . a blacksmith who gave her the damascus steel which is an integral part of the piece. With a base of carved ivory, the forged box is a playful combination of the steel, pressed "shooting star flowers" and 14k gold.

Other works on exhibition are two small enamel wall/table pieces, mixed media brooches, pendants. Her titles — "I Wonder How I'll See You When You Reap The Rainbows From My Eyes" and "Shades of Scarlett" — are only part of the fascination here. The lyrical works are meticulously crafted, very wearable and timeless in their appeal. ■

Barbara Mail, "Shades of Scarlet," sterling, copper, ivory, tin-type, 14k gold with peridot, 2"

CALIFORNIA CRAFTSMAN 1978

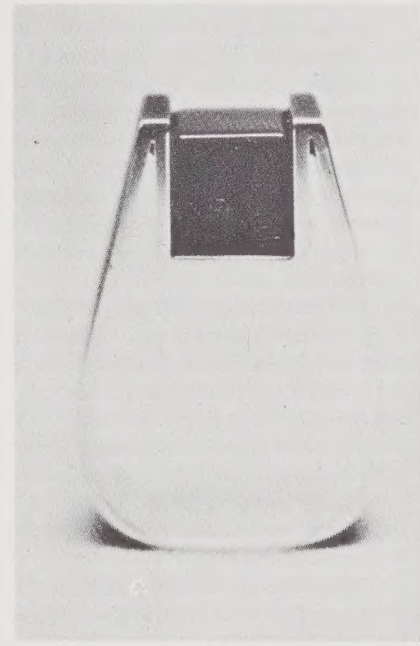
Monterey Peninsula Museum of Art
October 7-November 5, 1978

by June Braucht

The Monterey Peninsula Museum of Art proudly presented its second biennial "California Craftsman." In August, slides of 711 works were submitted by 330 craftsmen. Of these, 134 were selected for the exhibition which included, in addition, 20 invited entries. The selection was outstanding.

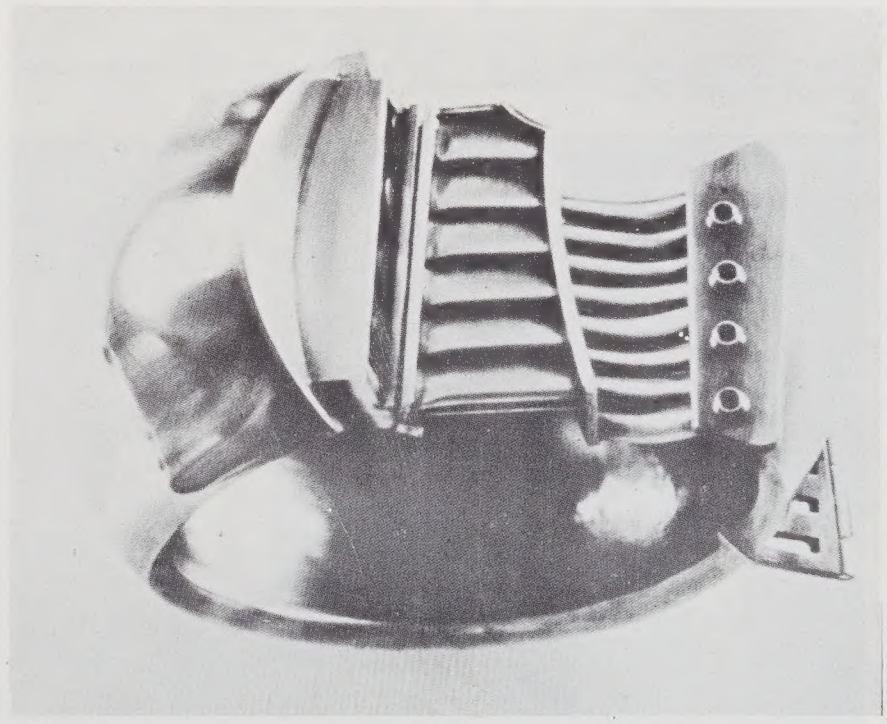
The growing concern in California with fine craftsmanship has inspired new directions in creativity along with a renaissance of earlier, almost forgotten skills. The emphasis is once again on hand work. New dimensions have been added to established crafts through the use of many materials including various forms of man-made materials. This exhibition was a comprehensive collection of these concepts, due to the expert selectivity of its three judges.

Invited participants included SNAG members Arline Fisch, Helen Shirk, Douglas Steakley and Lynda Watson. In addition, Linda Weiss received a merit award. ■



Rob Greenwalt, "Night Fire," ring

Thelma Coles, bracelet, silver & onyx



TONI GOESSLER-SNYDER

by Kay Eddy

The Elements Gallery — October 10-November 4, 1978

Metal artist Toni Goessler-Snyder has fabricated a superb collection of jewelry, complemented by her elegant new series of hand-colored etchings. Remarkable for their freedom of design, the metal works contrast color, pattern and texture in bold, flat planes. The graphics echo the metalwork in more delicate, sensitive drawing.

The Pennsylvania artist has set high standards for her work, seeking to create one-of-a-kind pieces which are enduring, affordable and eminently wearable. Highlighting the collection are two neckpieces. One is a large handsome oblong design with lapis and garnets. Another striking piece is fabricated with ivory and tourmaline.

The majority of her work here are brooches, which afford a surface for her personal expression. But there are chains combining baroque pearls and lapis; rings in 18k with moonstones, quartz and opals, and a stunning bracelet in sterling silver overlaid with gold, oxidized and etched.

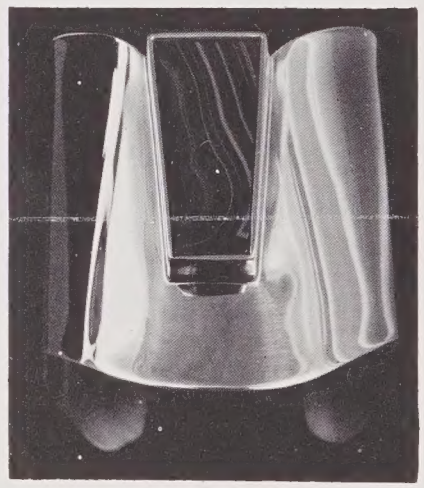
Toni Goessler-Snyder was honored with a commission by the 41 International Eucharistic Congress to design the Monstrance for official presentation to Pope Paul VI. ■

"INVITATIONAL 1978"

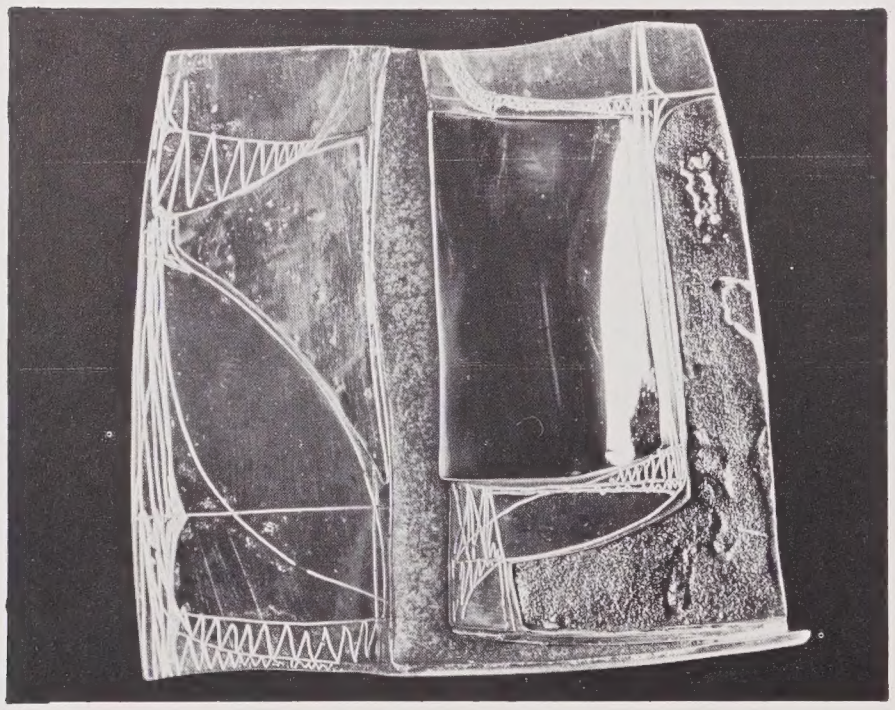
by Sybil Robins

"Invitational 1978" at The Craftsman's Gallery, Scarsdale, NY, presented the work of 24 craftspeople in all media, including metalsmith Auta Braganza-Davis, who showed bold sculptural jewelry in sterling, set with polyester resins or semi-precious stones.

Also exhibited were surreal sculptural assemblages and jewelry by Robert Natalini, uniting such elements as bronze, sterling, gold, copper, ivory, lapis, polyester and functioning electronics. ■



Auta Erganza-Davis, bracelet, sterling with agate.



Toni Snyder, sterling etching, 18k and 24k gold, resin

BOOK REVIEW

CENTRIFUGAL OR LOST WAX JEWELRY CASTING

by Murray Bovin
(revised by Peter Bovin, Bovin Publishing Co.)

review by Chuck Evans

This, it's seventh printing and revised edition by Peter Bovin, continues a family of excellent books. Not a flashy, color-plated picture book, it is sensibly illustrated, well written and complete. Mr. Bovin goes deeply into each phase of casting like no other book I've read. His research draws together the artist, teacher, student, and the production or commercial jeweler. Those of us familiar with school or small shop situations are presented a wealth of seldom seen information in regard to the techniques and approaches used in commercial establishments.

Rather than giving an outline here, I've asked the Journal to print the book's contents, along with this brief review. I'll simply say that each topic listed in the contents is clearly illustrated and well covered. Rated AAA.

P.S.—Could never do a review without at least one nit-picking detail and that's the use of asbestos. Some say it causes cancer.

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REVIEWER'S NOTE: Having the opportunity to review books for the Journal places me in a unique position. Books are normally sent to me well ahead of the Journal's printing date which allows me several readings of each book and time to take a good look and to think about what is being printed and offered for sale. Most book buyers are not in this unique position; most don't have time or opportunity to examine what is offered and for the most part will take a quick look, maybe are impressed by size or photographs and will spend their money. I would like to encourage our members to make every effort to spend time, examine what is offered and if satisfied, then buy. Before a purchase, check in public libraries, university libraries and in some instances ask the publisher for an examination copy.

I'm sure the Journal would appreciate your observations and comments on reviews and in all honesty to the authors and publishers, if you like, please offer a counter-review. A multi-view approach could stimulate a more beneficial dialogue.

—by Chuck Evans ■

TECHNICAL INFORMATION

TECHNICAL QUESTIONS ANSWERED

by Bernard Bernstein

(Editor's Note: Original questions were in Journal 19, page 21.)

Q. Figuring percentage of mark-up and profit.

A. I would suggest buying from I. Shor a clever circular slide rule calculator which has this worked out in tabular form along with three other tables. These are: total price based on cost per dwt, cost of fine gold content, and comparative weight scale in various alloys of precious metals. With the constant fluctuation in gold prices, this thing could be a handy gadget to have around. Shor's address is 50 W. 23rd St., NYC.

Q. Annealing of non-ferrous metals.

A. I'm not sure I understand the question, but it seems to ask if these metals will lost hardness over a period of time merely through exposure to ambient temperatures such as 68 degrees F. I can't imagine this happening on any scale that would create a problem during the next 20 million years. Metals anneal as a result of changes in the configuration in their molecular structure, and this happens at specific temperatures; usually over 1000 degrees or so.

Q. Patenting designs.

A. There are two ways to protect a jewelry design: (a) getting a design patent (not a mechanical patent); (b) copyrighting the design. The details on these methods are much too involved to cover in this space. The information is covered pretty well in publications by the government, and for sale at cheap prices. Here they are: "Patents and Inventions: An Information aid for Inventors," (15 cents); "Patent Laws," (50 cents); "General Information Concerning Patents," (30 cents); "Guide for Patent Draftsmen," (30 cents). Write to U.S. Dept. of Commerce, Patent Office, Washington, DC. As for copyrighting, the laws were revised and went into effect last Jan. so the old literature is no longer valid. Write to the Copyright Office, Library of Congress, Washington, DC 20559, and ask for "General Guide to the Copyright Act of 1976," and any other literature that is available. Also ask for some copies of the copyright application, Form VA, which you can use to register your jewelry designs. Read the laws carefully; not all jewelry designs are considered copyrightable by the Copyright Office. If you have a distinctive trademark and want to register it, you can do that too. Write to the patent office for their booklet "General Information Concerning Trademarks," (35 cents.)

Q. Surface patches on polished objects that have been cleaned ultrasonically.

A. I nearly went bananas until I found the solution to this one. The patches are really microscopic scratches caused by the pieces rubbing against each other or against the walls of the tank. Minute particles of grit get lodged between the surfaces and the ultrasound makes sandpaper out of them. What I did was make a wire rack that fits over the tank. Each piece of jewelry is hung so it can't touch anything else. Try it, you'll like it!

Q. Legal recourse if a customer refuses a piece.

A. This is a question for Marc Paisin, but as I'm no lawyer, I can always plead ignorance if I'm proved wrong, so I'll try it. It seems to me you have no recourse unless you prepared the foundation for it before you agreed to do the job. This probably involves either or both of two things. One is to have a signed contract that spells out the answer in advance if the customer refuses the job. There's nothing like a signature in ink to help develop a customer's taste quickly. At least you have a basis for going to court if you want to. The second thing is to get a cash advance at least to cover the cost of materials, or more, before you buy the gold and diamonds. In this way, the customer has to sue you. Faced by that he may decide he likes the piece after all.

Q. Correct rake and clearance for a lathe cutting tool.

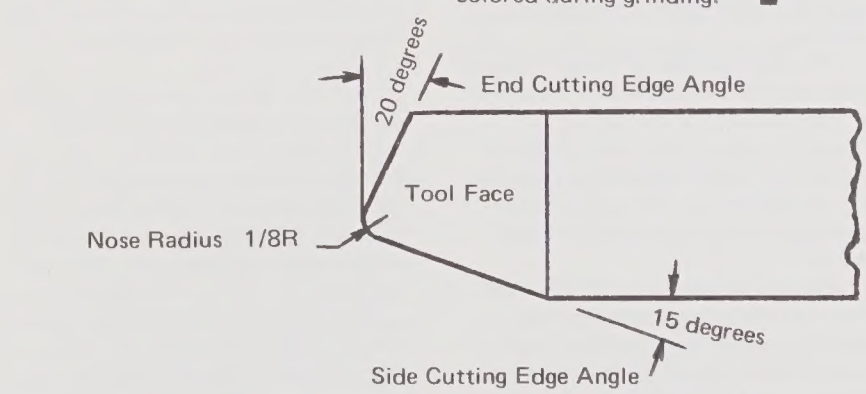
A. These figures vary depending on the metal being cut, etc. I am including a page Xeroxed from a little guide book published by the Morse Tool Co., New Bedford, MA 02742. It's called "Machinists Practical Guide," and you can probably get it by writing to them. The diagram says it all, along with the brief text. Also, any one of the many texts on lathe work will have anything you could want to know. Audel's, for instance:

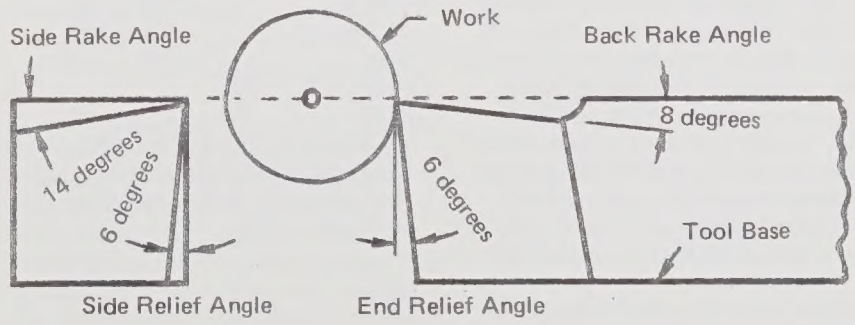
As with any other cutting tool, correct angles are necessary for long tool life and top performance. Clearance and cutting angles should be varied according to the nature of the work and the type and hardness of the material being cut. Finishing tools need greater rake angles than those used for roughing cuts. When heat-treated steels or other hard materials are being machined or when heavy cuts are taken, reduced rake angles improve tool life as the heat generated in cutting is more readily dissipated in the tool. Sharper cutting edges are needed for aluminum and certain other non-ferrous materials than for steel. Shaping the tool nose to spread the cut over a greater area will help prevent breakdown of the cutting edge from excessive heat. Proper side rake angles also help spread the cut and assist in chip removal to prevent cratering.

Excessive front-relief angles are a common cause of tool bit failures. Front-relief angles of 4 degrees to 8 degrees are almost always ample for any cutting application. Correct back and side rakes can readily be determined for every application and the operator is urged to experiment in arriving at these angles, and to maintain them accurately.

In any tool grinding operation, considerable heat is generated at the tool point. To extend tool bit life close attention must be paid to grinding speeds and feed. If regrinding is essential, care must be exercised to avoid excessively heating the cutting edge. To avoid this condition, select a soft, free cutting wheel, keep it cleanly dressed and use light, even pressures. A decrease in the speed of the grinding wheel will also result in less heating of the tool bit.

Avoid grinding at rates that discolor the tool surface, since the development of even a straw color may be sufficient to reduce the hardness of the cutting edge. Wet grinding is recommended only if the cutting point can be kept flooded with fluid. Do not cool by dipping the tool in water, if it has become hot and discolored during grinding. ■





(reprinted courtesy of Morse Tool Co.)

ANSWERS (PART 2)

by N . B. Winkler

(Editor's Note: The answers below are in response to questions previously published in the Journal.)
QUESTION NO. 1: First Serial Rights Only — If white gold was made as a specific alloy then we could say, "Do this and don't do that". But today there are many combinations of gold and other metals that make up white gold; each has its own working procedure.

For the most part, white gold obtains its characteristic white color from nickel. The greater the proportion of nickel, the harder the resultant alloy. Then too, there are the palladium white gold alloys. These are softer and far more workable than their nickel gold counterparts.

Where a particular white gold is produced by a refiner, there one may obtain specific information as to the working qualities of that alloy, ie, color, work hardening, characteristics, annealing procedures, quench or air cooling, pickling, etc.

Although conflicting claims are made for various white gold alloys, specifically regarding air cooling or quenching — if in doubt, air cool. There are specific formulations that call for quenching, so, know your supplier.

"Is it too brittle to forge?" Again, what does the supplier say? In general, nickel white golds cannot be forged to any extent. One problem is that the oxide formed in annealing is hammered into the metal, thus creating a whole new area of headaches.

Palladium white gold lends itself more to the forging process. The cardinal rule is to experiment with a piece of scrap metal. But with present skyrockting price of gold, who can afford to keep scrap around?

White golds as a rule are annealed around 1400 degrees F. In order to obtain the full benefits of different heat treatments, one should know the characteristics of the particular alloy in use. Softness can sometimes be improved by quenching from the annealed state; but again, some alloys tend to crack with such treatment and caution must be observed.

Copper favored white gold alloys respond to a 10% sulfuric acid solution while nickel favored alloys respond to an 8% nitric acid pickle to help remove heat caused discoloration.
QUESTION NO. 20—The rake and clearance angles for turning tools vary with the type of tool used; ie, high speed steel or carbide and the material being cut.

The subject is covered fully in Machinery's Handbook by Erik Oberg and F. D. Jones and put out by The Industrial Press, 200 Madison Ave., N.Y., NY 10017. The subject is covered under "Tool Grinding".

The book is a reference tome on machine design and shop practice for the mechanical engineer, draftsman, toolmaker, and machinist. Any decent library should carry it.
QUESTION NO. 12—"Bombing", is described by Murray Bovin in his books, Jewelry Casting and in Jewelry Making. Despite protestations regarding the safety of the procedure, any solution containing cyanide should be handled with the greatest care. Cautious of the process use an enclosed box-like hood to prevent splashing and to draw off fumes.

The attached picture shows such a hood with the sliding door removed to show placement of the cyanide containing dish. Note on picture no. 3 the dense vapor given off when the hydrogen peroxide is added to the cyanide.
QUESTION NO. 2—Rhodium is the whitest of the platinum family of metals. White gold which contains fine gold, yellow, and copper, red, cannot be alloyed to the color of rhodium. White golds containing palladium or platinum are used chiefly in the dental profession.

The following formulas for 18 and 14 karat white golds are considered good color white golds:

	18k	18k	14k
fine gold	75%	75%	58.4%
nickel		14%	17%
copper		7%	16%
zinc		4%	8.6%
palladium	20%		
silver	5%		

Lowering the copper in the nickel alloys above improved the color of the white gold, but increases the hardness. ■

SILVER INSTITUTE PUBLISHES TECHNICAL SILVER SUMMARIES

The Silver Institute studies more than 275 reports each month of new research done throughout the world on silver and silver products. Four times a year, the Silver Institute presents about 70 of these reports in a publication called New Silver Technology. These presentations are not simply abstract references, but each item is intended to be a readable summary of the new technology which has been developed. The names of those who did the work and the full addresses, showing where the work was done or reported, are also provided, as well as the patent designations, or the issue and page designations for the technical publications carrying the texts of the reports.

Goldsmiths Journal has selected three of these summaries and are reprinting them with permission of the Silver Institute, Suite 1138, 1001 Connecticut Ave., N.W., Washington, DC 20036. We felt these were the most interesting, wide-ranging, and potentially applicable. Subscription to the New Silver Technology is available from the Silver Institute at $25 per year. Members finding these reports particularly interesting should subscribe directly to the Institute to insure a complete and uninterrupted supply of summaries.

WATCH CASES

Silver and silver alloy watch cases are protected against tarnish with coatings of magnesium fluoride (MgF_2). The magnesium fluoride protective coatings are very resistant to sweat. This is particularly important for wrist watches and other watches which are in constant contact with the skin.

Magnesium fluoride is thus vapor deposited onto a silver alloy watch case in a vacuum of 80 millipascals ($6x10^{-4}$torr) and at a temperature of about 300 degrees C (572 degrees F). The resulting coating is 0.2 micron thick and protects the silver against discoloration from perspiration. (In Japanese)

Shosaburo Fukuyama, Daini Seikosha Co., Ltd., 31-1 Kameido 6-chome, Koto-ku, Tokyo, Japan *Japanese Kokai Patent*, 77 61,181, May 20, 1977.

SILVER ELECTROPLATING

Stronger adhesion of silver plates to copper substrates is achieved by electroplating a thin silver undercoat at temperatures below 10 degrees C (50 degrees F) before continuing the electroplating at higher temperatures. Use of the low initial temperature prevents the formation of silver undercoats which are thick and which thus peel easily. Such undesirable thicker deposits may tend to form at higher temperatures since under those conditions there is more rapid electroless, or chemical, plating of silver.

An alkaline silver cyanide electroplating bath is used which contains 4% silver cyanide (AgCN), 5% potassium cyanide (KCN), and 8.5% potassium carbonate (K_2CO_3). Initially a copper frame is immersed for 30 seconds with the solution maintained at only 7 degrees C (about 45 degrees F), resulting in a very thin electroless deposit. By contrast, the initial electroless deposit of silver would be five times as thick if the copper were immersed in the solution at the conventional temperature of 35 degrees C (95 degrees F) for the same length of time.

A strongly adherent undercoat of silver is electroplated from the 7 degree C bath, using a current of 2 amperes per square decimeter (18.5 amperes per square foot) for 3 seconds. The temperature of the bath is then increased to 35 degrees C (about 95 degrees F). Electroplating with the warmer bath continues for 2 minutes at a current density of 5 amperes per square decimeter (46.5 amperes per square foot) to give a silver layer 6 microns (o.24 mil) thick.

The thin undercoat of silver makes the complete silver coating extremely resistant to peeling. Even when heated for 15 minutes at 400 degrees C (752 degrees F) the silver layer does not blister or peel. (In Japanese)

Katsumi Umeda, Noge Denki Kogyo K.K., 198 Samnai-cho, Kanagawa-ku, Yokohama, Japan, *Japanese Kokai Patent*, 77 35,128, March 17, 1977.

REDUCTION OF SILVER LOSSES DURING GOLD-SILVER ALLOY MELTING

Additions of proper proportions of lime (CaO) during roasting, and soda ash (Na_2CO_3) and coal during smelting, greatly reduce the loss of silver during the smelting of roasted copper refinery slimes. The smelting process yields dore metal, an alloy of silver with some gold.

During smelting some silver is lost into the slag. A larger amount of silver and silver oxides volatilize and become flue dust.

To minimize these losses, about 9% lime is added during the roasting process. Subsequently, 2% soda ash combined with 0.3% coal is added during the smelting process. Use of these three additives results in nearly a 6% increase in the direct recovery of silver.

Correspondingly, there is a reduction in the amount of silver and gold in both the flue dust and the slag. This reduction is found to be not nearly so great if there is failure to add the lime during the roasting process.

When all three additives are used, the silver content of the flue dust is reduced to 2.24% while the slag contains 0.33% silver. Omission of lime during roasting results in the flue dust containing 7.5% silver and the slag containing 1.2% silver.

Similarly, addition of the lime, soda ash, and coal reduces the concentration of gold in the flue dust to only 0.015%. This compares with a gold concentration of 0.19% resulting when the lime is omitted in the roasting process. In the slag there is only 0.0024% gold when all three additives are used but 0.084% when the lime is not added.

A small amount of coal is included as a reductant. The quantity of coal used, however, should not exceed about 0.4%. Larger amounts of coal cause excessive reduction of copper with consequent contamination of the silver-gold alloy. (In Russian)

T. N. Greiver, A. M. Belen'kii, I. A. Golomzik, V. I. Chuprakov, and A. I. Zaitseva, Moscow, U.S.S.R., *Tsvetnye Metally*, 1977, issue 6, pages 5-7. ■

ULTRASONIC CLEANING TECHNIQUES FOR THE PRECIOUS METAL MANUFACTURING INDUSTRY

by Nick Upton and Chris Walton

(reprinted courtesy of Worshipful Company of Goldsmiths, Technical Advisory Committee)

INTRODUCTION—Ultrasonic cleaners are tools which give the technologically minded craftsman a quick, efficient and simple method of deep cleaning which replaces and improves on more traditional cleaning methods at an economical price.

This report sets out to explain in detail some of the uses and advantages of ultrasonic cleaning to the jewellery and silver industry.

WHAT IS AN ULTRASONIC CLEANER?—In simple terms an ultrasonic cleaner has three major component parts consisting of a generator, a transducer and a tank to hold the cleaning fluid.

The generator functions as a power source by creating a high powered oscillatory electrical signal which is passed to the transducer. The transducer is attached to the cleaning tank which contains fluid and is responsible for converting the electrical power into a mechanical sound wave.

Small machines usually contain all these elements in one small compact unit, but the larger systems often have a separate generator which can power a number of tanks — the power source including a selector switch and a timer.

TECHNICAL BACKGROUND—The word ultrasonic describes sound waves with frequencies beyond the range of human hearing.

Sound waves promote a mechanical motion and move with compressive and decompressive phases through solids, liquids or gases.

The phenomenon which promotes the highly active cleaning process in ultrasonic cleaning is known as cavitation. When high intensity ultrasound passes through a fluid, momentary pressure nodes are created which, during the decompression phase of the sound wave, cause a rarefaction of the liquid, and microscopic cavities or bubbles are formed. These bubbles collapse or implode, during the subsequent compression phase which follows, with exceptionally high force.

It is this rapid formation and collapse of cavities in the cleaning liquid which induces the intense scrubbing action associated with ultrasonic cleaning and which so effectively cleans even hidden surfaces and small cavities.

Cavitation is actually achieved when localized pressure in a fluid drops below the level of the fluid's vapour pressure, i.e. the point at which the fluid boils at any given temperature. This point is known as the "Threshold of Cavitation". This is also co-dependent on the density, viscosity and surface tension of the fluid in use. All of the characteristics which determine the threshold of cavitation are temperature dependent.

When a mixture of fluids is employed for cleaning, the vapous pressure of the solution is normally reduced and thus the onset of cavitation is dependent on a higher level of ultrasonic power input. With certain solutions a combination of fluids will raise the vapour pressure and then the output required from the generator is less.

Increases in the operating temperature of the solutions can often improve cleaning, but this is not always so, and strict control of operating conditions must be maintained to achieve optimum results.

Increases in ultrasonic energy beyond the point of threshold of cavitation increases cavitation in the fluid and therefore the efficiency of the cleaning. Unfortunately, as always, there are limits beyond which the fluid acting as a carrier of ultrasonic energy will no longer accept increases in power, particularly in the area immediately adjacent to the transducers. The useful limit of power input is reached at a point where surface cavitation starts, and power is lost by the formation of cavities at the interface of liquid and tank near the transducers.

The onset of surface cavitation is influenced by the volume of fluid covering the transducers and the obvious combination of the masses of the cleaning fluid and the articles immersed in the fluid for cleaning. The greater the mass of immersed articles, the more power is required. It is also important to realise that articles resting on the base of the cleaning tank will accelerate the point at which surface cavitation occurs and act as a limiting factor as to the amount of useful energy which can be induced in the cleaning fluid. This means that greater numbers of components can be cleaned by suspending them in the cleaning tank, thus allowing maximum power input, whereas efficiency is markedly reduced by even a small number of articles resting on the bottom of the tank.

Between the two limits of threshold of cavitation and surface cavitation, effective ultrasonic cleaning can occur and the correct combination of influencing variables will achieve optimum cleaning results.

In the frequency range up to 50 kHz the power required to cause cavitation in any given liquid is fairly constant. Frequencies above 50 kHz require very large increases in power to achieve cavitation. When lower frequency levels are used for particular applications, then noise levels may become excessive. Where frequencies near the human audible range (19 kHz) are used, environmental effects must be considered. Commercial machines with frequencies ranging from 25 kHz to 40 kHz are produced with a variety of power ranges.

SIMPLICITY—Cleaning with ultrasonics is easy. Articles to be cleaned are simply suspended in a cleaning fluid which is energised with ultrasound. Adherent dirt is forced from the surfaces and cavities to be cleaned, no matter how complex the component.

EFFICIENCY—Contamination can be removed from the majority of materials in a matter of seconds with the correct choice of cleaning fluid, and the process is ideally suited to the jewellery and silver trades since the same machine will often cover a wide variety of applications.

ECONOMY—Ultrasonic systems are not expensive since small, efficient units can be purchased for under a hundred pounds. They are reliable due to the use of solid state circuitry. Repeatability of performance is assured since there are no moving parts to wear out, and maintenance is virtually nil. Cleaning fluids can be reused and in many instances recycled. Although for large scale plants the initial cost may appear high, the actual cost per article cleaned is almost negligible.

APPLICATIONS—In a short report of this type, it is not possible to comment in detail on all applications and methods used in the precious metal industry. In almost all stages of manufacture and repair of jewellery and production of silverware, some cleaning process is necessary.

CHOICE OF SYSTEM—Detailed discussions with manufacturers or suppliers of equipment are really necessary to determine the size and type of equipment necessary, but the following should be taken into account:

1. The type of article to be cleaned.
2. The form and type of contamination to be removed.
3. The volume throughput desired.
4. The shape, size and intricacy of components to be cleaned.
5. The design of baskets or supports necessary for ease of handling of bulk components.
6. The siting of plant within the workshop complex.

CHOICE OF FLUIDS—Both the material to be cleaned and the type of contamination to be removed will influence the choice and type of cleaning fluids. The correct choice of fluid, whether water or hydrocarbon based, is of critical importance and this point cannot be over-emphasised. The following factors are involved:

Safety—In general terms, the simpler the fluid employed, the safer the system. Where hydrocarbon based fluids are used, precautions against fire may be necessary, coupled with adequate ventilation. A complete ban on smoking anywhere in the vicinity of the plant is an absolute necessity.

Economy—This should be measured in terms of the useful life of the fluids and the cleaning time per batch of components and not on the initial costs of the fluid employed. The more sophisticated and expensive solutions are often by far the cheapest if costs are spread over a period of time.

The type of fluids used also influence the type and size of equipment to be employed. This equipment might comprise a one, two or three bath system to provide satisfactory cleaning and rinsing operations. In certain cases multiple tank installations may be arranged to contain a variety of cleaning solutions, thus widening the scope and application of the plant.

Some of the more sophisticated plants employ vapour degreasing as part of the rinse cycle and these processes require heated vapour chambers mounted above the ultrasonic cleaning tank. Where very high levels of cleanliness are necessary, then the reclamation and recycling of the cleaning fluids may become obligatory for economic reasons. Specialist systems are available often specifically designed for a particular process application, using a specific fluid.

METHODS OF CLEANING—Best results are obtained where articles are suspended in the cleaning fluid, the most efficient area of operation being about a quarter of the way up the tank and towards the centre of the unit. The efficiency of the unit may be reduced or even negated if components to be cleaned are placed on the floor of the cleaning tank. Small parts requiring cleaning should be placed in a perforated basket hung in the cleaning tank and not resting on the bottom of the unit. These baskets must be very carefully designed so that the minimum screening of ultrasonic energy occurs. Both the material of the basket and the size of drain holes used are important.

Other articles may require different suspension aids and these should be designed to be supported from outside the tank or be suspended from the rim to avoid loss of ultrasonic power. A gantry type suspension system is best, but for high volume production, conveyor feed systems may be designed and used to advantage.

Where chemical solutions which would attack the stainless steel lining of the ultrasonic tank are used as cleaning fluids, then it is necessary to contain these fluids in a separate inner vessel. The stainless steel tank is partially filled with water to transmit the ultra-sound to the fluid in the container. Plastic containers can be used for this purpose and they should be as thin as possible. Nylon is best used for hydrocarbon fluids and polypropylene for aqueous solutions. Pyrex glass is excellent for this application but may be fragile.

POLISHING COMPOUND REMOVAL—Perhaps one of the most essential applications for ultrasonic cleaning exists in the finishing and polishing areas of the jewellery and silver industry.

For good quality polishing, it is essential to clean articles in between each polishing or sanding operation to remove abrasive compounds, and before plating. This intermediary cleaning stops cross contamination of polishing mops and markedly speeds the achievement of a high surface finish.

It is not often realised how much time is lost in polishing precious metal articles in removing the effects of cross-contamination of rouge mops with tripoli, etc. Simple cleaning between stages using an ultrasonic cleaner will prevent this, the only alternative being to use high pressure steam, which is difficult to produce economically on a small scale and for which the only purpose-built equipment is of German or American origin.

After polishing, some compound remains which would inhibit satisfactory electro-deposition, particularly in grooves and crevices. It is advisable to clean articles ultrasonically prior to electro-cleaning, which can then be carried out more efficiently.

The following processing is suggested for satisfactory cleaning:

1. CLEAN—Halogenated hydrocarbon (including saponifier and wetting agent)
2. RINSE—Degreasing agent (hydrocarbon)
3. FINAL RINSE—Refining cleaner including a grease solvent

When using hydrocarbon cleaning fluids: *REMEMBER – No Naked Flames; No Smoking; Adequate Ventilation!*

Water based solvents can be used for cleaning of polishing grease, but they require more power input to the ultrasonic cleaner and are less efficient. They are, however, much safer.

When aqueous solutions are employed these should be soap-free alkaline detergents, followed by water rinses.

If hydrocarbon fluids are to be used, then ultrasonic vapour degreasers may be employed for larger installations.

Sometimes a combination of hydrocarbon cleaners used in conjunction with aqueous rinse solutions may be more efficient in specialist applications.

Tank Capacity	Generator Output	Unit Capacity
1,000 cc	100/200 VA	10/15
3,850 cc	250 VA	20/35
7,800 cc	250 VA	50/60
10,600 cc	350 VA	100/150
17,000 cc	450 VA	150/200

One unit is taken as an average size dress ring.

CAPACITY OF PLANT—Many ultrasonic cleaners working in the industry have very low efficiency simply because they are overloaded. It is always quicker to clean two batches efficiently than one slightly larger batch inefficiently.

The above figures were provided by Nusonics Limited as examples of the capacity of their equipment. These figures could be taken as a reliable guide for most other manufacturers' products.

POST PLATING TREATMENTS—Cleaning or neutralizing cyanide based plating solutions is often difficult or almost impossible with intricate components, due to lack of penetration. Ultrasonics will help to overcome surface tension and allow penetration of neutralizers and acidifiers into even the closest meshed milanese bracelets, etc. The following procedure should be adopted:

1. Cathodic or ultrasonically clean in alkaline cleaner and wetting agent.
2. Ultrasonically clean in acidified water.
3. Ultrasonically wash in mild detergent solution.
4. Hot rinse.
5. Hot air dry.

ANTIQUES AND REPAIRS—Items of jewellery for repair, valuation or simply cleaning and polishing can be efficiently cleaned using ultrasonics by employing a soap-free alkaline detergent formulated for this purpose.

Soils, dirt, soap and cosmetics should be loosened by using a soft washout brush under running water before being immersed in the ultrasonic bath. In stubborn cases, ammonia based proprietary cleaners may be recommended, but these should be used in well ventilated areas and normal safety precautions, as recommended by the supplier, should be observed.

Jewellery containing gem materials should be cleaned in alkaline solutions except for such organic materials such as pearls, jet, ivory and coral, which should be cleaned with caution using a neutral or mildly alkaline detergent.

Under no circumstances should emeralds or opals be cleaned ultrasonically. As these materials often contain natural faults which may not even be visible to the natural eye, the force of *ultrasound may break these stones.*

Some stones currently being imported have been dyed at source to enhance their colour. Turquoise amongst others is commonly doctored and the force of an ultrasonic cleaner will often release the dye from the stone. Great care and a trial run with a single stone is recommended before any stones thought to have been tampered with are cleaned in bulk.

SOME NOTES ON JEWELLERY CLEANING USING ULTRASONICS:

1. Different metals should be cleaned separately to prevent cross deposition.
2. Articles should be suspended in the cleaning tanks for maximum efficiency and specialist supports or baskets should be designed to suit the application.
3. Intricate items should be rinsed ultrasonically to ensure complete removal of cleaning fluids. Rinsing after cleaning is important and it is normal to use fluids with the same base as the cleaning fluid as rinse colutions.
4. Neutralization of plating solutions is very important. Adequate penetration of solutions into complex items requires the use of ultrasonics.
5. Strong cleaning fluids should only be used in well ventilated areas. If hydrocarbon based materials are used, smoking and naked flames should be prohibited.
6. All gem stones should be cleaned using alkaline solutions.
7. Faulted stones such as emeralds and opals should not be cleaned with ultrasonics.
8. Organic materials such as pearls, jet, ivory and coral should be cleaned with neutral or mildly alkaline detergent.
9. Settings on antique jewellery may be loose. Ultrasonic cleaning may ease the stones from their settings and therefore articles cleaned should be carefully inspected.
10. Tarnish removal should be carried out as a separate process, preferably after initial cleaning and using an ultrasonic rinse afterwards. ■

STOP TARNISH ON SILVER

(courtesy of The Silver Institute Letter, No. 8, Sept. 1978)

"Silver Safe," a tarnish inhibitor first described in the January 1977 issue of this LETTER, now is widely used in homes in Europe, the Amercas and elsewhere. The cyclohexylamine compound made by Northern Instruments Corp., 6680 N. Highway 49, Lino Lakes, MN 55014, protects an enclosed five cubic feet of space and its silver contents, from tarnish for a year or more.

A cake of "Silver Safe" in each drawer or case of household silverware keeps the valuable contents bright and glowing with no need for polish. It's also used in homes and stores for display cases, coin cabinets, trophy cases and almost everywhere that silver is kept. ■

ANSWERS (PART 3)

by Kathy Farnham-Tyler

In case the question has not yet been answered — according to Benvenuto Cellini himself in his autobiography, "It happened that she was delivered on a night of All Saints, following the feast-day, at half-past four precisely, in the year 1500."

This puts his birth in the first week of November, making him a Scorpio. ■

CORRECTIONS

The following corrections should be made in the Gary Griffin technical paper supplement (Machine Tool Technology) in this issue:

1. Page A, 2nd to last paragraph, 12th line — ACES should be AXES
2. Page D, 3rd paragraph, 4th line— T/ALUMINUM should be T6 ALUMINUM
3. Page D, bottom paragraph— the top of this photograph is the left side.

TUBE SETTING

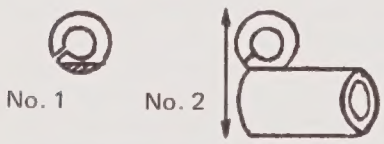
by Kim Bass

After completing by BFA work, I felt my pieces were not as precise or involved as I wanted, so I began technical explorations. In 1975, I studied silversmithing and goldsmithing in Denmark. The work was very technical and the kind of exercises that I desired. While in school, I also began working part-time in a job where I was dealing with gemstones and for the first time I wanted to include them in my work. I wanted to be able to do a historically traditional setting as well as to set anything into any of my designs and feel confident that it would be technically sound.

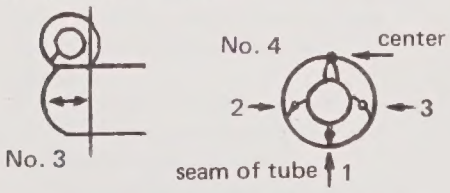
My first discovery was that it was difficult to find clear explanations or descriptions written for how the various types of settings were executed. After much research and work, my favorite setting became a tube setting:

TUBE SETTING LINKAGE FOR 5mm STONES

1. Begin with tubing, .8mm walls, and cut into 6mm pieces (size varies throughout the chain). Burr out the seats for the stones.
2. Make the jump rings; take .8mm wire and wrap it around a wire spindle, 1.1mm. Saw into rings.
3. File the rings. (No. 1)

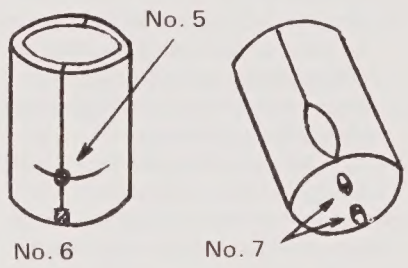


4. Solder a ring onto the seam of each tubs. (No. 2) Use hard solder. Be sure that the end of the tube and ring are flush.
5. Measure from the bottom of the tube, to the center of the top of the jump ring wire. (No. 3)



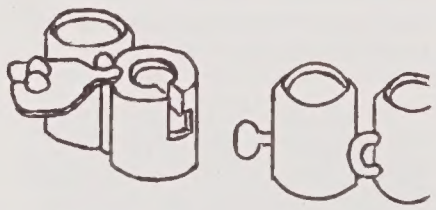
6. Use a divider, opened to about half the diameter of the rings, and find the point opposite the seam of the tube. (No. 4). Mark the side of the tube.

7. With a divider, mark the distance measured in (No. 3), the cross point between the marks of (No. 3) and (No. 4) is where a hole is drilled for the rings of connecting tubes to go through. Use a .85 to .92mm drill bit for .8mm wire. (No. 5)
8. File a slit below the hold, .8mm square (No. 6), the same dimensions as the connecting rings.



9. On the inside of the tubes, file a rounded edge on the slit and hole, to allow for the rings to move more easily. (No. 7). Use a tiny round file.
10. File the edges of the rings' openings. (No. 8).

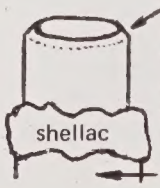
11. Clean it all up. Thread each ring through the hole of the adjoining tube, close the ring and solder it, being very careful not to solder it to the next tube, preventing movement. Use medium solder.



CLASP

The key on one tube fits down into the other end tube, and hooks into position. The lid swivels on a rivetted wire to lock in the key.

SETTING THE STONES

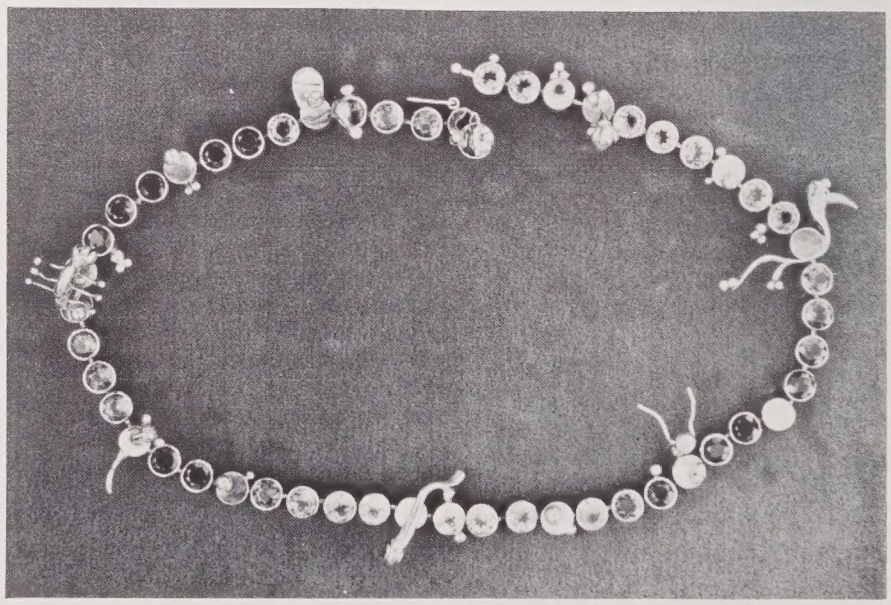


File a 45 degree angle on the top rim of each tube, making thin the metal to be turned over the stones.
Set tubes into shellac on a dop stick.

Use a flat prong-pusher and begin pushing a bezel over the stone at a 45 degree angle. Then, upright from the top, until the metal is touching the stone all the way around.

Clean the inside edge with a square graver. ■

Kim Bass, Tourmaline Choker, 14k yellow and red gold, 18k green gold, tourmaline (detail-creature)



Kim Bass, Tourmaline Choker, 14k yellow and red gold, 18k green gold, 24k gold

MACHINE TOOL TECHNOLOGY: AN AESTHETIC APPLICATION

by Gary S. Griffin

INTRODUCTION

This paper is initiated with the reference that one selects process because of aesthetic need. The premise of technology as an end in itself insures the triumph of the means (process) over the ends (aesthetic). Only ones aesthetic ends deserve a primary position in this hierarchy.

This paper is submitted not as a redundant recital of a machine tool technology already supported by vast volumes of technical literature; rather, it seeks to nourish one's aesthetic vocabulary which consequently may demand the use of that technology.

The title, "Machine Tool Technology: An Aesthetic Application", is the result of these thoughts.

A BRIEF HISTORY

Modern civilization owes its form to machine tools. Without them as a necessary condition, the machinery of the Industrial Revolution could not have been built. The development of steel itself would have been of little significance had not the machine tool been present to shape it. Curiously, these machine tools perform in a complex way the same basic operations accomplished by the tools of Stone Age man.

Man, the animal, is distinguished by his ability to make tools and communicate ideas. Tools, when considered as functional extensions of man's limbs, become one of his chief biological characteristics. In evolution, man consistently avoided specialized bodily equipment characteristic of other animals. He retained the flexible five-fingered hand; and after acquiring the ability to walk upright, his hand became free to make and manipulate tools.[1]

Middle Bronze Age civilization saw the development of some important mechanical devices. Among these was the lathe, the oldest of the developed machine tools. The exact place of its origin cannot be established and it is quite possible that its origin was not singular.[2]

It can be clearly established that by the second century B.C. knowledge of the lathe was present throughout most of the European and Near Eastern World. Since the origin of the lathe lacks clarity, details of its spread cannot be established.

Although there is evidence that early lathes were used to turn non-ferrous metal, these machines were primarily woodworking tools. However, by the first century B.C., Celtic arm bands made of shale clearly show the use of the lathe to make body ornaments.

It is surprising to find important innovation during the Dark Ages as evidenced by the significant advances in turning technology. The most important of these advances are: (1) the use of the spring-pole-and-treadle drive; (2) the transformation of the lathe bed and its stocks into rigid structures; (3) the introduction of continuous motion drive of the workpiece; (4) the appearance of the first device for holding and controlling the cutting tool mechanically.[3]

These Dark Age advances began a process of refinement leading toward building skill into the machine. Specifically, the spring-pole-and-treadle drive freed the hands of the operator for more accurate tool manipulation. Bed rigidity reduced machine vibration and tool chattering. The continuous motion drive replaced the spring-pole-and-treadle drive to provide continuous rather than intermittent cutting. The introduction of mechanical cutting tool control provided the means for precise progression of the cutting tool along the workpiece.

By the end of the eighteenth century, metal-cutting lathes were prevalent. Diderot's *Encyclopedia of Trades and Industry* gives this clear reference.[4] Lathes were used to shape convoluted rims on gold platters, to cut threads in ferrous and non-ferrous metals, and to apply surface decoration.

Of particular interest is the development of the ornamental lathe. These machines, first documented in the late sixteenth century, include the use of eccentric cams and templates. The Holtzapffel lathes of the late eighteenth century (fig. 1) exhibited headstock indexing, revolving cutters, and eccentric chucks. These ornamental lathes supplemented machine form vocabulary by producing eccentric as well as asymmetric shape. Much of the technology found in these machines surfaced years later in the universal milling machine.

The components of the lathe as we know it were known and used during the eighteenth century. However, it was Henry Maudslay, in 1797, who provided the synthesis yielding the form fundamental to the modern industrial lathe.

Since Maudslay, the lathe has been developed to meet the demands of new materials and products. Yet, the aesthetic of lathe turned form remains well founded in those that preceded him.

The development of the industrial milling machine began in the early nineteenth century with the inventors Eli Whitney and Robert Johnson. These early machines, used primarily in small arms production, were essentially rotary files capable of only shallow cuts.

By 1830, the basic elements of the milling machine had been introduced, and by 1860, the milling machine had secured a place in the metal trades. However, the ancestor of the modern milling machine was not provided until 1861. Joseph Brown's *Universal Milling Machine* was the synthesis of the preceding sixty years. This machine, developed to machine flutes (grooves) into twist drills, increased power and rigidity, improved feed, and introduced the knee and column system. Increased power and rigidity with improved feed reduced cutter chatter and extended cutter life. The knee and column system solved the problem of vertical cutter adjustment that had plagued milling machine design until that time.

In addition, Joseph Brown replaced the rotary file type cutter with the segmented tooth cutter as is common today. Each cut taken with a rotary file type cutter only changed the surface of the workpiece while a cut taken with the segmented tooth cutter could substantially alter the form of the workpiece. The rotary file type cutter was hand-made and when dull required annealing, refiling, and subsequent hardening and tempering. Brown's cutter eliminated this cumbersome process to require only simple grinding upon dulling a cutter.

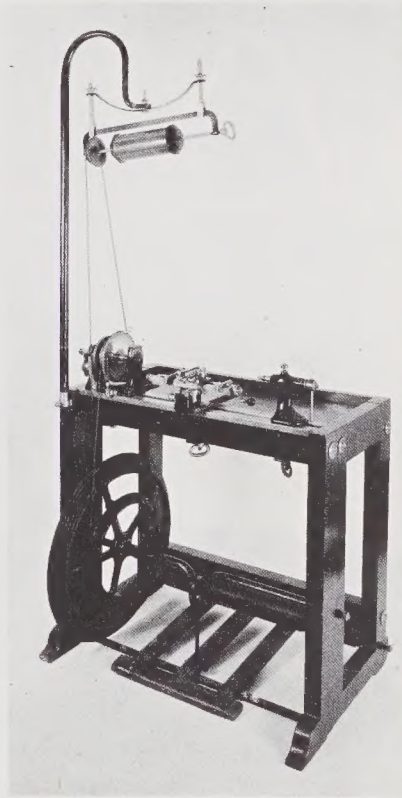


Figure 1

Brown's machine and cutter had set the stage for the developments of the twentieth century that were to follow; greater strength and rigidity, faster cutting speeds, the inclusion of the electric motor, and fully automatic operation.[5] Greater power and rigidity allowed for increased precision with additional stock removal. Full automation, in the form of computerized milling machines, provided simultaneous stock removal on three aces. All of these provided greater efficiency with greater diversity of form.

The history of machine tools is vast and complex The preceding sketch can only offer a very superficial survey of the three thousand or more years that have passed since the first machine tools were used. However, it does inform the individual that in these processes too, there is tradition.

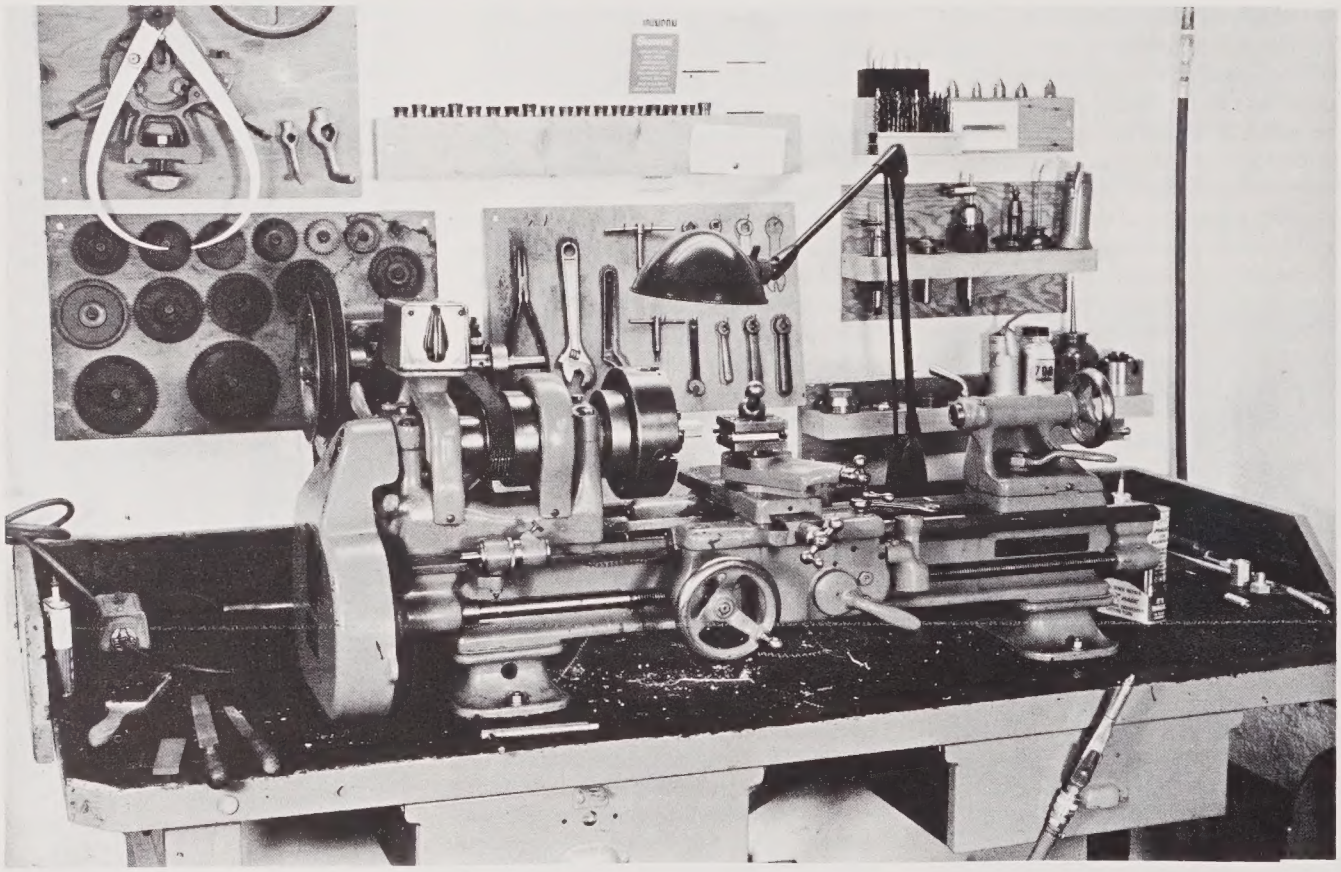


Figure 2

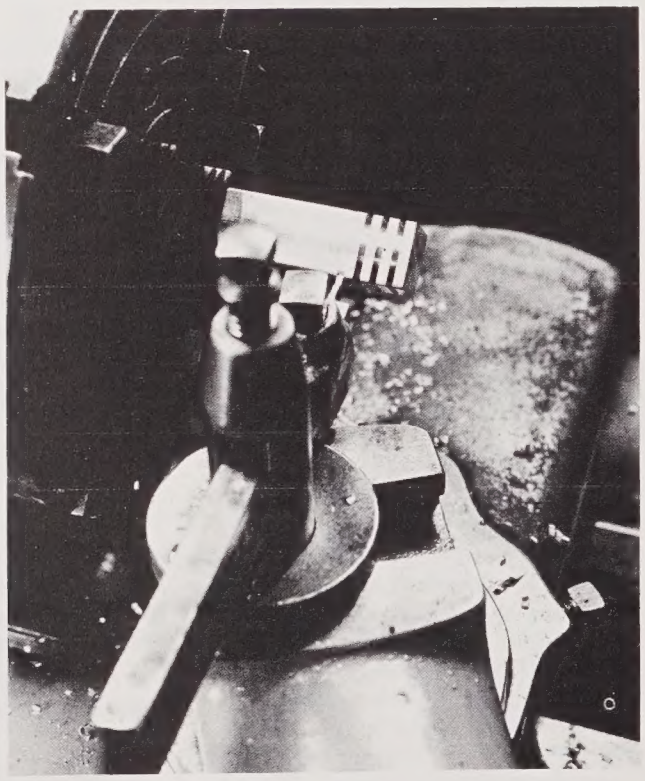


Figure 3

The distinguishing feature of the lathe, (fig. 2) is that it produces cutting action by turning the workpiece against the edge of the tool. As the workpiece revolves, the tool feeds into or across it. Turning is a subtractive process usually producing a surface that curves in one direction and is straight in another. The form of a cylinder illustrates this statement.

The lathe turned aesthetic is founded in and dependent upon this simple cylinder. The variations resulting from applying this basic premise are infinite.

Lathe products are three dimensional. Analysis of this fact indicates that three-dimensional form results only because the work is being rotated. In contrast, the movements of the cutter are graphic or two dimensional. Movement of lathe cutters is only longtitudinal, cross or a compound of the two. (Refer to the nomenclature diagrams in the glossary.)

With this contrast in mind, let us proceed to manufacture a sample that illustrates the point. The workpiece is 6061 T6 aluminum, 5/8" square in cross section, approximately 4" in length. The workpiece is secured in the chuck and subsequently rotated.

Initial cutting occurs when the tool is moved into the rotating workpiece. Slots, the negative area, and fins, the positive area, result (fig. 3). This movement of the tool is graphic only utilizing the cross feed.

Inspection of the cut reveals several visual facts: (1) the sides of the cut are flat, graphic form, and (2) the bottom of the cut produces a disc which is comparable to the fundamental cylinder discussed earlier. Already the two-dimensional three-dimensional paradox is visually apparent.

To this point, all cutting has been external and applied by cross feeding. By drilling along the longtitudinal axis, (fig. 4), internal cutting results. A standard drill chuck is inserted into the tailstock, the twist drill is secured, the work is rotated, and the drill is fed into the workpiece utilizing the tailstock mechanism resembling that of a drill press.

The cutting action itself is visually fascinating since the workpiece is rotating and the twist drill is stationary. Drilling operations on any other machine are accomplished with stationary workpiece and revolving twist drill.

Analysis of the drilled hole again supports the fundamental aesthetic of the cylinder. However, this cylinder is in negative rather than positive form.

This internal cylindrical form can be easily altered. In this sequence, a tap will be used for that purpose. A tap with tap wrench is started into the hole utilizing the tailstock for alignment and support (fig. 5). Tapping is done while the machine is idle. This is a manual operation.

Superficial inspection reveals a threaded hole. Closer inspection shows that this threaded hole is actually a helical groove. In other words, further development of form.

This helical groove is a variation of the basic cylinder. It is a compound of cross cutting, the groove itself, and longtitudinal advance, the helix. Again we find two-dimensional movement resulting in three-dimensional form due to rotation of the tap.

In order to expose internal form and add visual complexity, the end of the workpiece was split (fig. 6). The result is a cross-sectional view of all operations performed which further develops the aesthetic.

The cross-sectional view clearly manifests the simultaneous existence of the two-dimensional, the top edge and the three-dimensional, the outside edges and the internal cavity. The cross-sectional view reinforces the premise of variation of the cylinder and suggests that a component in that variation is cutter shape.

Lathe toolcutter bits are supplied as blanks. Their shape is determined by the machine operator.[6] These bits are given their shape by grinding on a standard tool grinder.

Tool bit shape is infinite. This illustrates another point worth discussing; complexity of form. When infinite tool bit shape is applied through cross longtitudinal or compound feed, the visual result is a multiple and by definition, complex.

This complexity, as process and as form, can be very intimidating. One must remember that visual complexity is easily built by overlapping different systems. Systems, represented by the turning operations in figures 3-6 are applied process.

It is not difficult to follow the synthesis in figures 3-6. However, if one does not consciously analyze the visual result of this synthesis, imitation rather than learning will result.

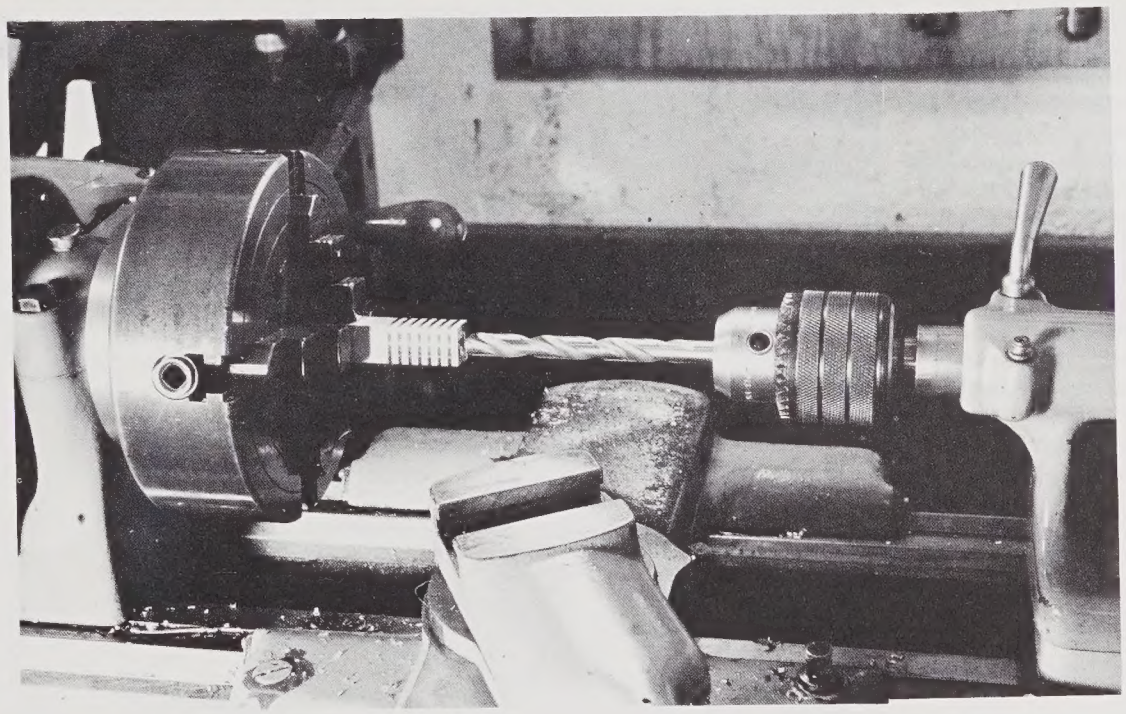


Figure 4

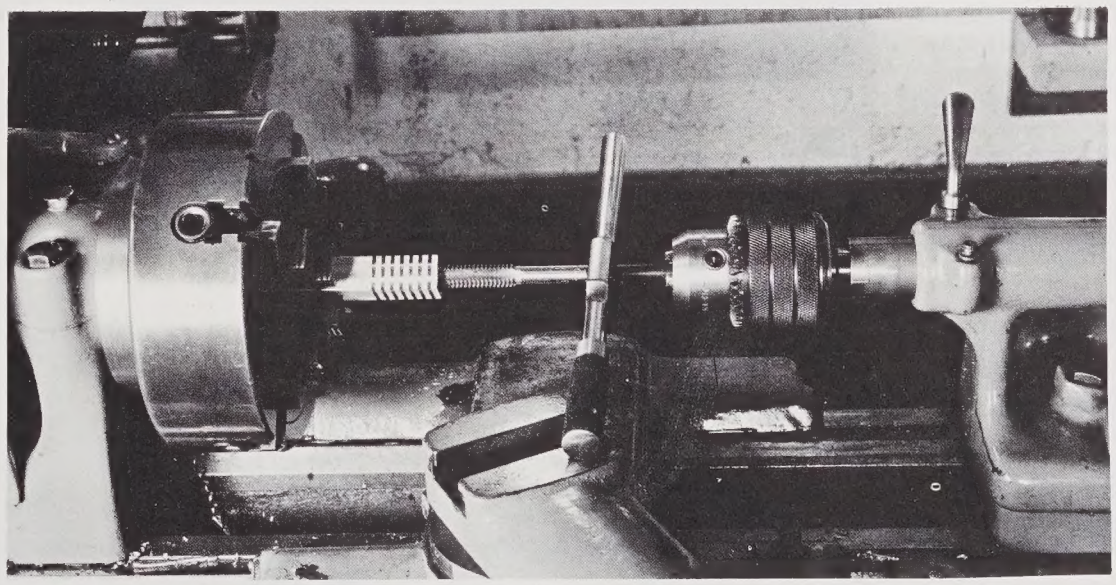


Figure 5

Figure 6

The shaper (fig. 7) is a tool used to machine flat surfaces by performing successive reciprocating (alternating forward and backward) cuts over the workpiece. The shaper uses a single cutting tool very similar to a lathe tool bit. The workpiece, securely fastened to the table, may be moved transversely (cross feed) by hand or automatic feed beneath the cutter.

The distinctive element in shaping is the use of reciprocating motion to form a straight line. Shaping is a subtractive process that may render form as texture, relief or volume. Therefore, the aesthetic result of shaping will always be founded upon this linear, subtractive relationship.

With line and texture in mind, let us proceed to manufacture a sample that illustrates the point. The workpiece is 6061 T/ aluminum, 3/16"x 1½"x4½". The workpiece is secured in a vise which is mounted on the table. The cutting tool head (see nomenclature diagram in glossary) is lowered until the tool bit touches the work. The machine is switched "on" and a line is cut (fig. 8).

Before proceeding, an understanding of feed is necessary. Feed is defined as the distance the work is moved transversely toward the cutting tool for each forward stroke of the ram.[7] By controlling the rate of this transverse (cross feed) advance, we control texture.

This rate of transverse advance is nothing more than frequency of repetition. Within a defined distance, if the frequency of traverse is short in interval, we have fine feed and subsequently fine line texture. Within the same distance, if the frequency of traverse is long in interval, we have course feed and subsequently course line texture.

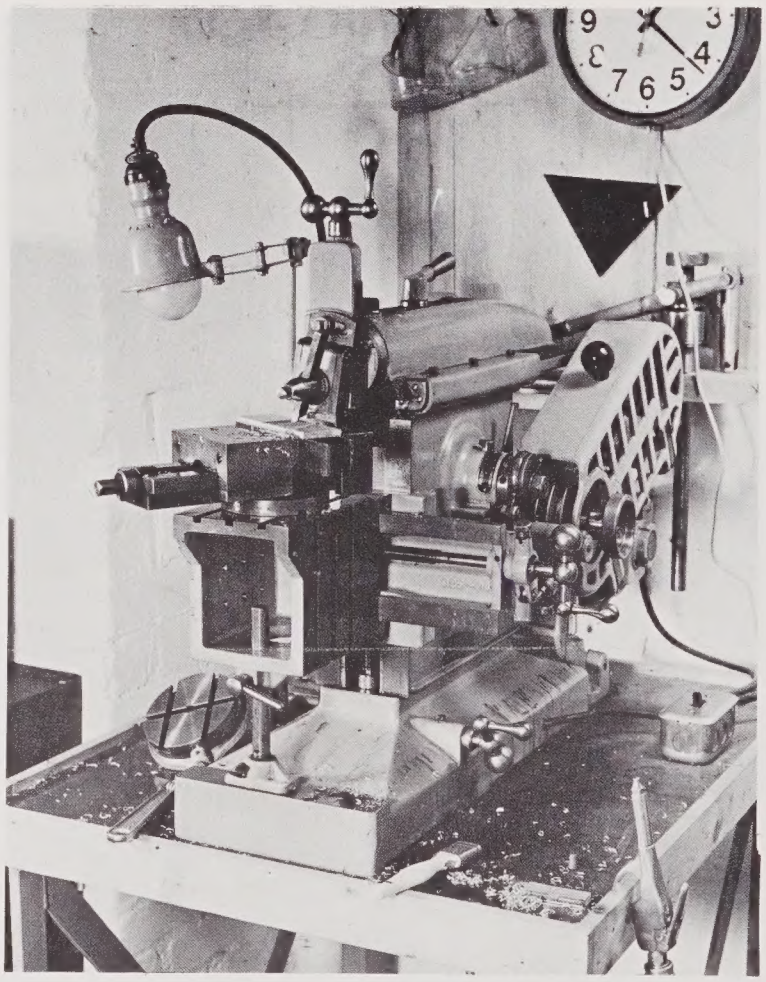


Figure 7

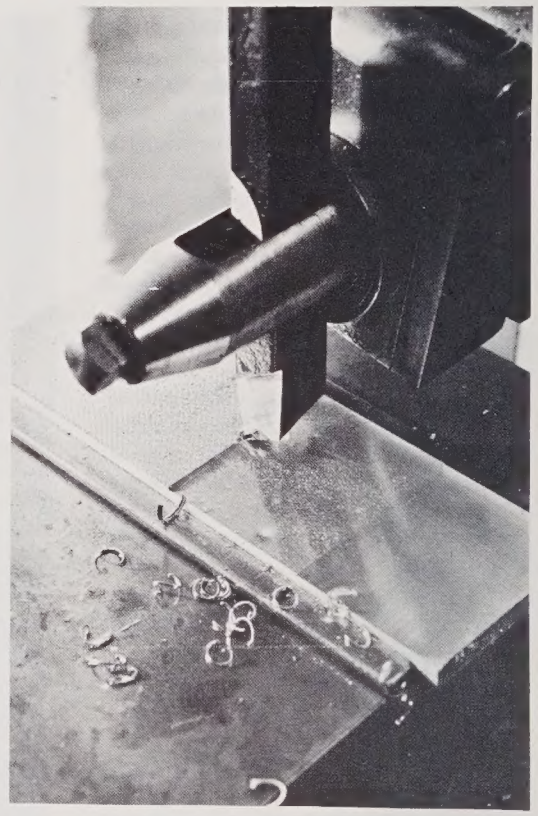
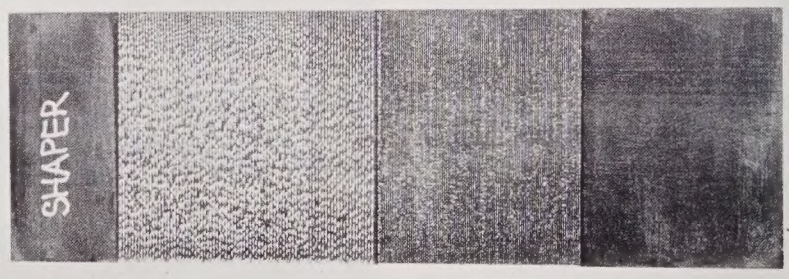


Figure 8

This principle of linear repetition as texture is illustrated in fig. 9. The bottom of the sample is fine line texture, followed above by medium line texture, and finally course line texture.

Figure 9



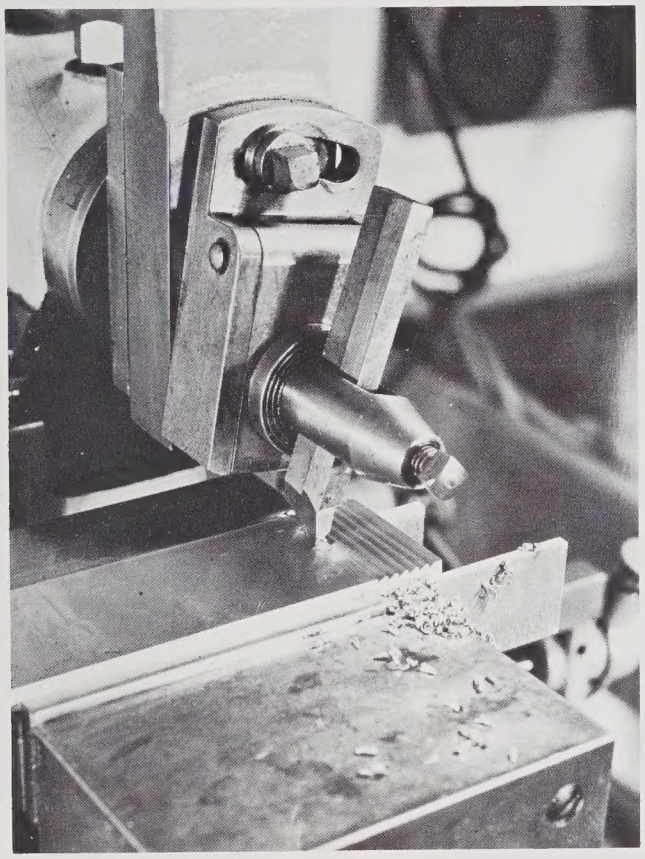


Figure 10

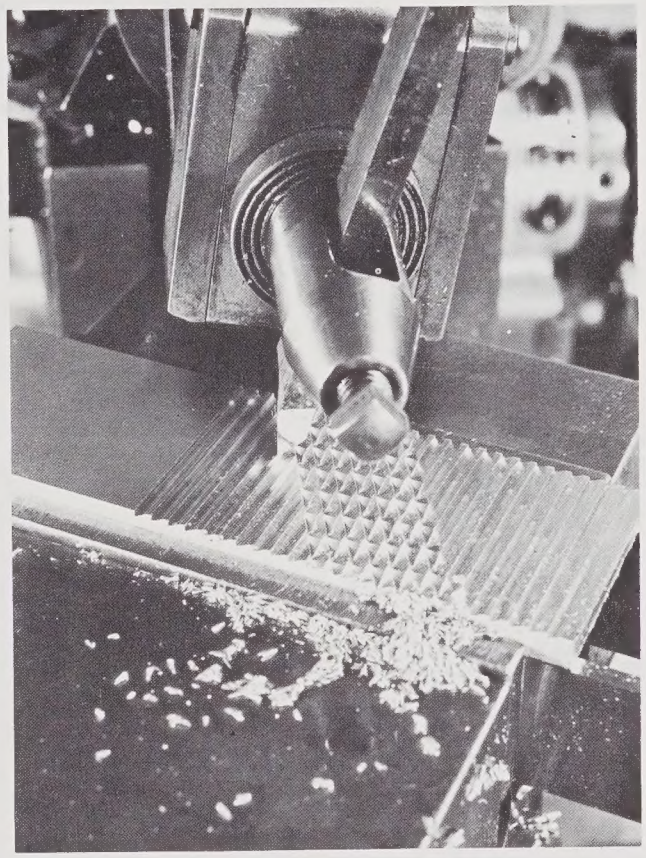
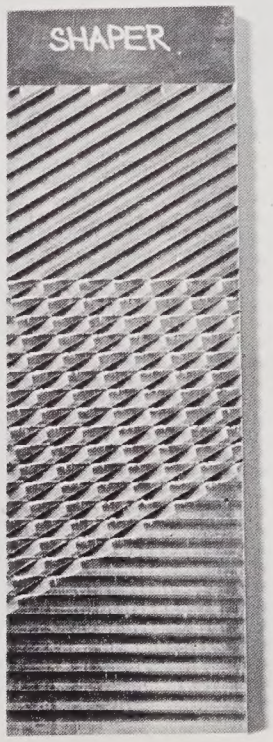


Figure 11

Figure 12



This sample (fig. 9) is clearly a basic cause and effect relationship. In terms of technology, the cause, cutter reciprocation and work traverse, yields the effect, repetitive linear cuts. Aesthetically, the cause, repetition of parallel lines, yields the effect, texture.

This aesthetic cause and effect relationship is a rather general axiom. Specificity is only realized through the application of technical process. In this case, shaping is that technical process. Hence, the result is specific aesthetic application.

By increasing the intervals of traverse frequence and by increasing the depth of cut, one finds the beginnings of pattern as relief (fig. 10). The fundamental subtractive line and the variable traverse frequency (cross feed) are visually present. Together they develop pattern. Depth of cut alone provides relief.

Figure 10 illustrates simple pattern relief development. Complex pattern relief is developed by the overlapping of systems (fig. 11). Here, the only variable is the angle of cut. This angle of cut is achieved by rotating the vise on the table.

In this complex pattern relief, the depth of cut and the interval of traverse frequency (feed) remain unchanged. Cut angle is the variable. However, it is overlapping (fig. 12) that is the agent of complexity.

Figure 12 is explicit as an example of overlapping systems. The top and bottom section of the sample show simple pattern relief. The bottom area is horizontal pattern and the top is angled pattern. The middle area is a complex pattern developed by overlapping the two.

Active acknowledgement of basic aesthetic principles as applied through technical process is essential. The passive rendering of technique can only result in a mere report of process.

The milling machine is a type of machine tool in which the work is fed against a rotating cutter, which is mounted in the revolving spindle of the machine.[8] (See nomenclature diagrams in the glossary.) The vertical milling machine (fig. 13) is distinguished by the fact that the spindle is normally in a vertical position.

The workpiece is held securely on the table of the machine or in a holding device clamped to the table. The table may be moved in longtitudinal, cross and vertical directions.

The vertical mill offers diversity not found in other machines. This diversity offers visual results that can only be described as vast. However, one may select a particular characteristic of this machine and illustrate that characteristic.

The use of a revolving cutter is a fundamental characteristic of milling machines. In the case of the vertical mill, the visual result of the revolving cutter can become a distinctive visual element. Rotation describes a circle or in the case of incomplete rotation, an arc. That circle or a portion of it, its arc, is the particular characteristic the following samples illustrate.

Longtitudinal and cross feed produce linear qualities since these two feeds are essentially graphic movements. The vertical traverse produces relief and subsequently the third dimension.

In figure 14, a piece of 6061 T6 aluminum, 3/16"x1½"x4½" is secured in a vise which is clamped to the table. The machine is switched "on" and the cutter begins rotation. Depth of cut is selected through use of the vertical table traverse. Removal of stock is accomplished by feeding the workpiece into the cutter.

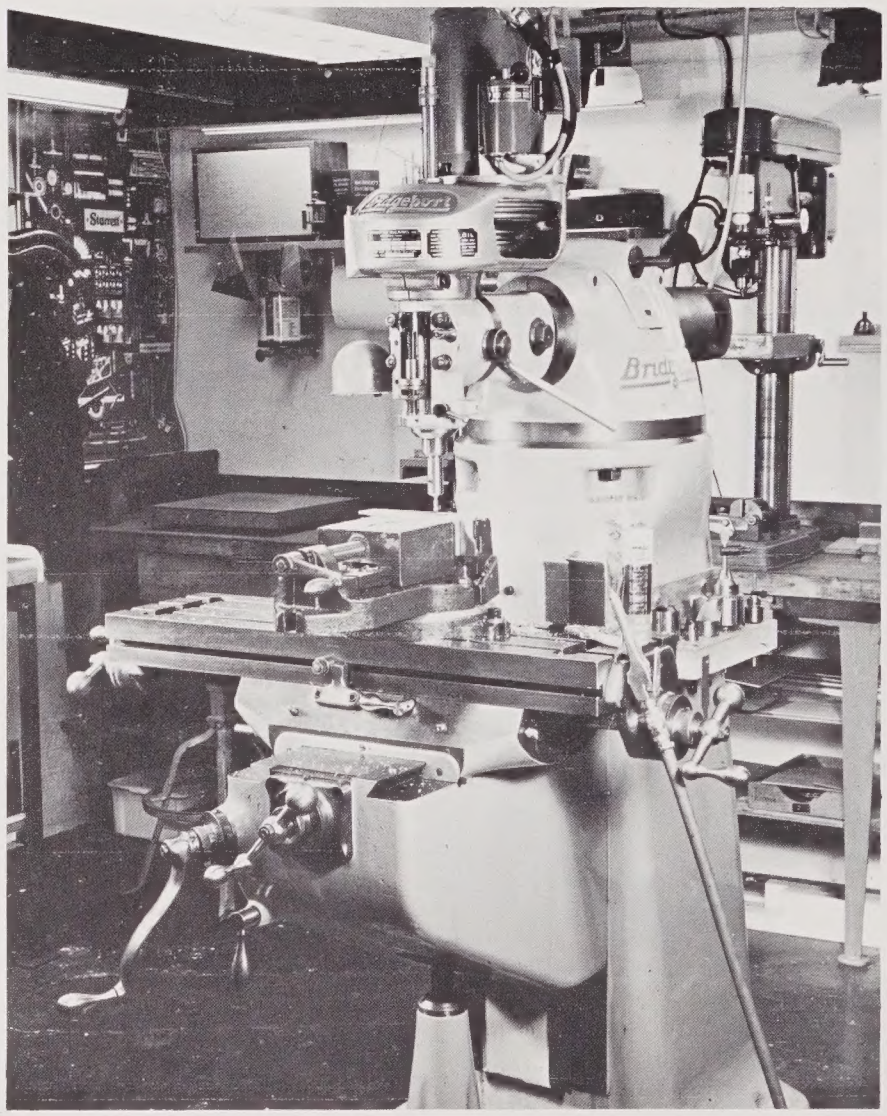


Figure 13

This result (fig. 15) illustrates the most obvious aesthetic fundamentals of the revolving cutter. Visual variation is easily achieved by changing cutter diameter, and any or all of the three feeds.

The sample (fig. 15) illustrates the following visual results. Work fed longtitudinally produces a line with width equal to the diameter of the cutter. The termination of that line is an arc with radius equal to that of the cutter. Repetition of that line is controlled through cross feed.

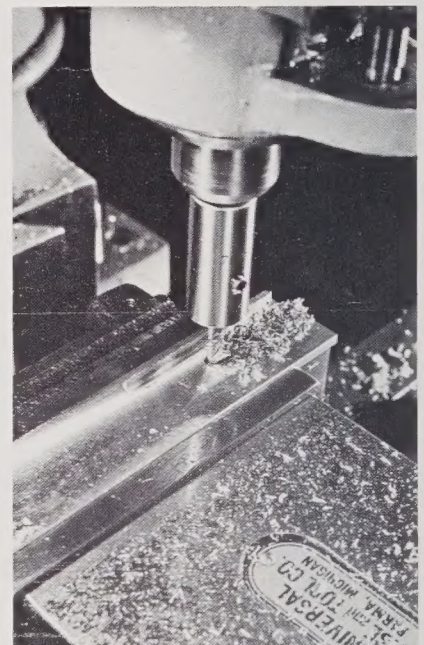
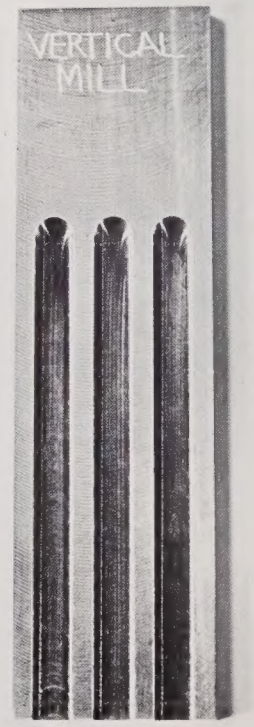


Figure 14

Figure 15



A more complex variation of the visual results of the revolving cutter may be achieved by tilting the head at a compound angle (fig. 16).

By using longtitudinal and cross feeds to position the cutter repetitively, a grid system is developed. This grid is simply a repetition of form in two dimensions (fig. 17). Cutting or removal of stock is achieved through use of the vertical table traverse alone. The table is raised to produce cutting at a specific depth and then the table is lowered. Notice that the visual result is still founded in the revolving cutter.

If depth of cut remains constant and the longtitudinal or cross feeds are used to produce cutting, the visual result changes (fig. 18).

The bottom section of the sample in figure 18 is the grid system discussed earlier. The middle section is the result of cutting through use of the cross feed. The intervals of cut are selected through the vertical traverse.

Of significance is the cross sectional view of this cut. It is not a single arc, rather a form that is the combination of the two arcs. This combination yields the form.

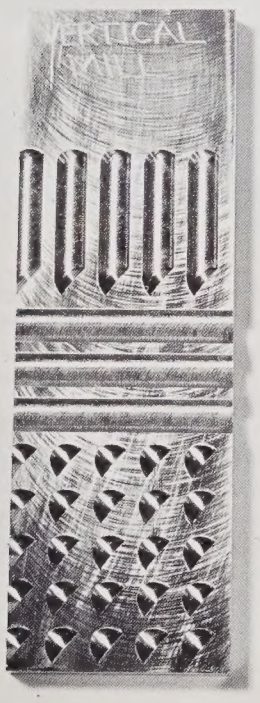
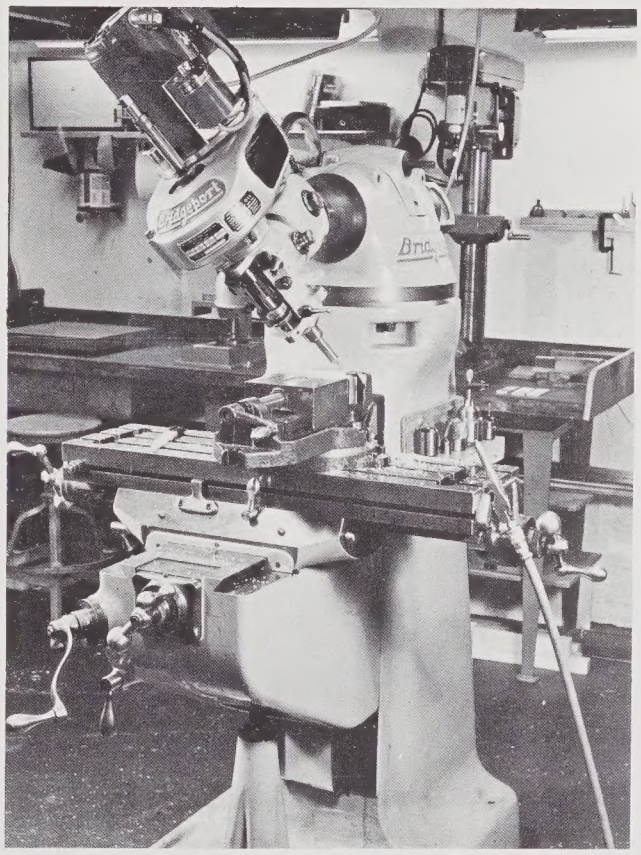


Figure 18

form reversal. The reader is now prejudiced since subtraction (stock removal by cutting) has been discussed. However, without this prejudice, one would have difficulty distinguishing whether the forms were raised or recessed. This dicotomy could easily become a premise for one's aesthetic sensibilities.

If one fails to acknowledge aesthetic premise, the resulting work will have no real significance. In other words, the visual result of technical process would lack the direction given by an aesthetic. Consequently, the lack of direction results in a mere record of cause and effect.

Figure 16



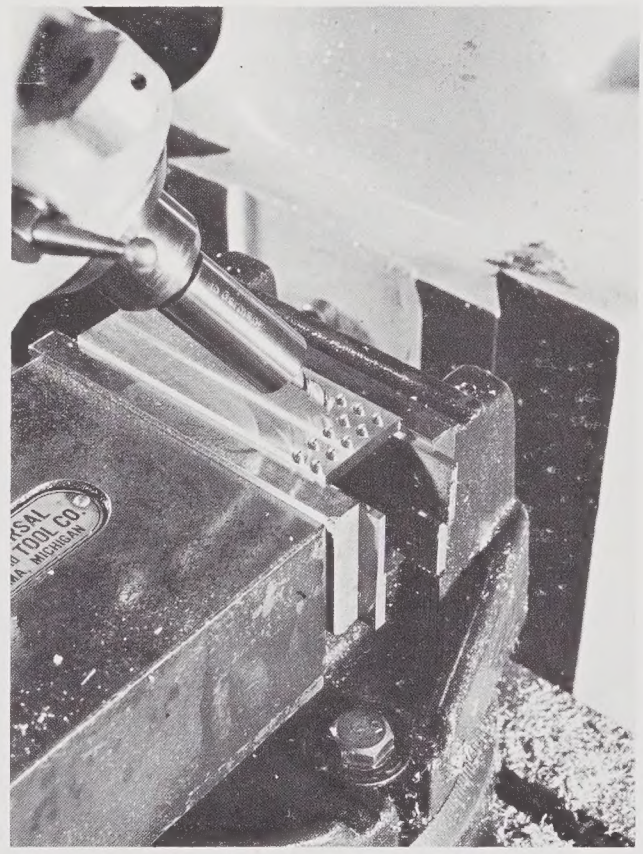


Figure 17

The top section of the sample (fig. 18) is the result of cutting through use of the cross feed, and the depth of cut through the vertical traverse.

The cross sectional view of this cut is a mirror image of the cuts taken in the middle section. Note the visual results achieved by terminating the cut within the borders of the stock. The aesthetic, although complex in terms of process, remains founded in the arc of the revolving cutter.

Variation of the forms in figure 18 may be achieved by changing the angle of the head, the diameter of the cutter, and any or all of the three feeds.

A rather curious aesthetic result that is present in figure 18 is that of

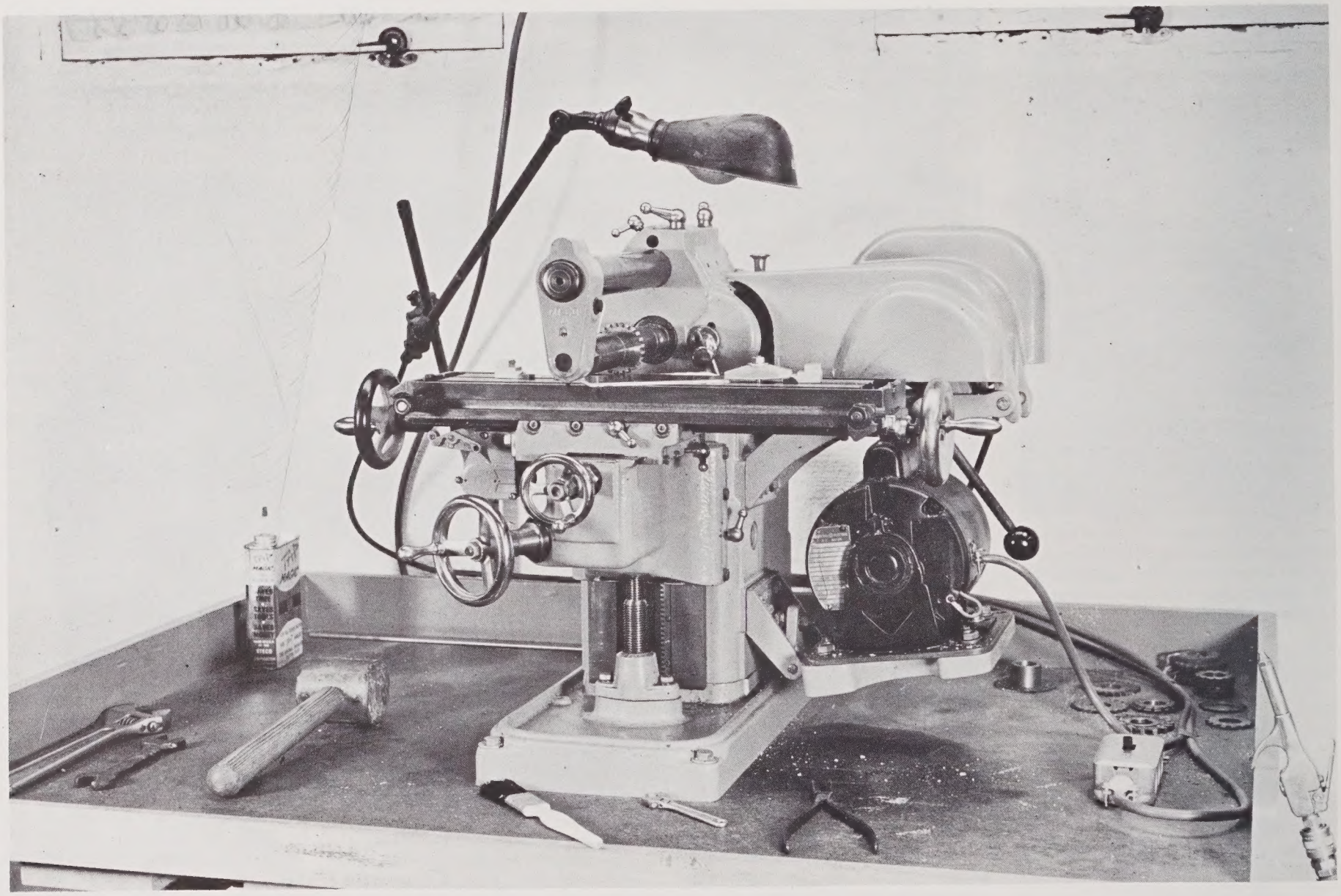


Figure 19

The horizontal milling machine (fig. 19) is distinguished from the vertical milling machine by featuring a horizontal spindle. All other features of the horizontal mill parallel those of the vertical mill.

The variation of cutter shapes used on the horizontal mill is of primary aesthetic interest. Cutter shape is the primary interest since the basic aesthetic is that of work being fed into a revolving cutter resulting in linear form. The cutter shape acts to contour that line.

A piece of 6061 T6 aluminum, 1/8"x2½"x5" will act as the sample. Figure 20 illustrates a milling operation using a cutter with serrated teeth. Each pass of this cutter leaves a line equal to the width of the cutter with a contour that is the reciprocal form of the cutter.

Traverse of the longtitudinal feed produces line. Traverse of the cross feed produces repetition of that line. Depth of cut (vertical traverse) produces relief in that line.

By changing the cutter (fig 21) the visual result of milling changes significantly. The new cutter, much thinner than the previous one, resembles a saw blade. The visual result of this cutter resembles a slot.

All of the feeds used with the previous cutter remain unchanged. With the one variable, cutter shape, two distinctive lines have been produced (fig. 22).

Since the longtitudinal feed always moves perpendicular to the spindle of the horizontal mill, diagonal cuts can only be achieved by angling the work. The workpiece may be secured to the table at any angle.

A common theme continually surfacing in machine tool process is that of precision. The machine assists the operator in working to close tolerance.

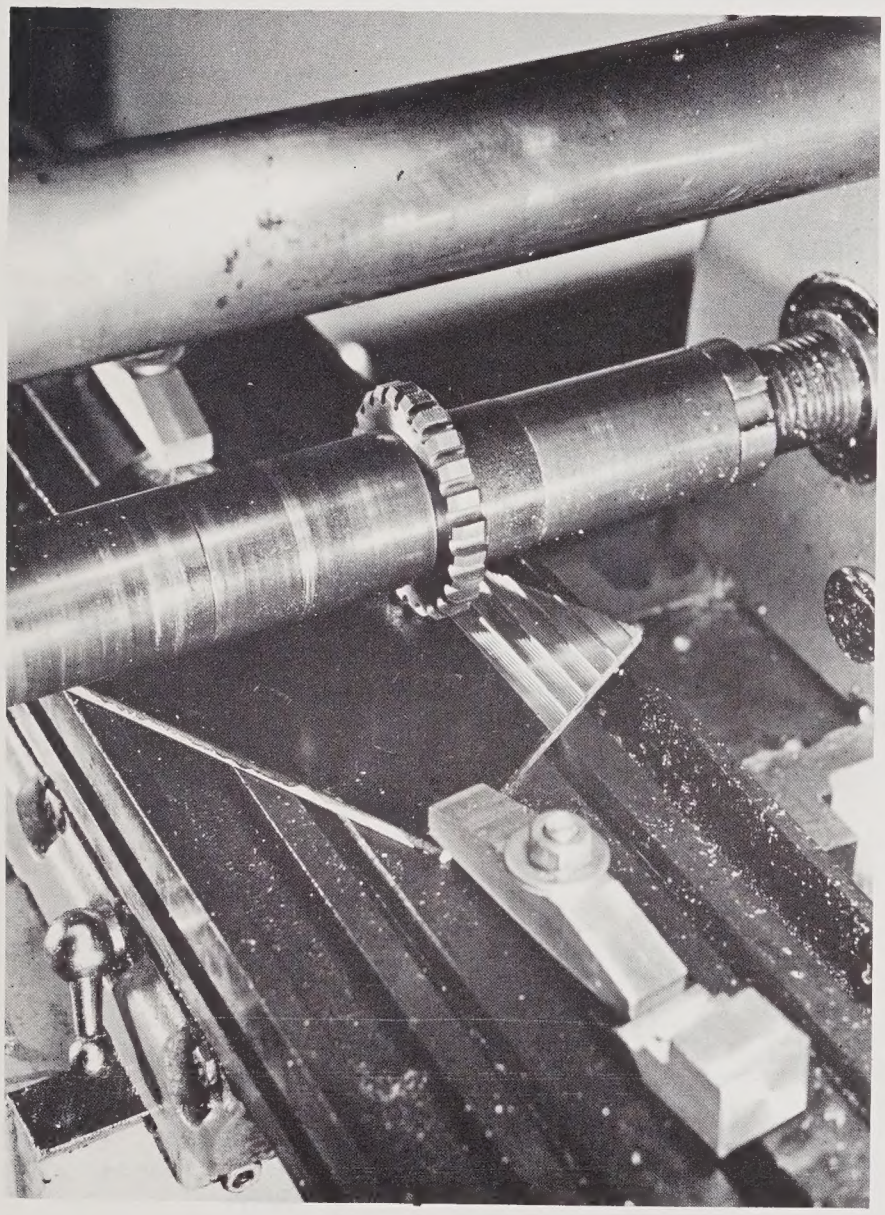


Figure 20

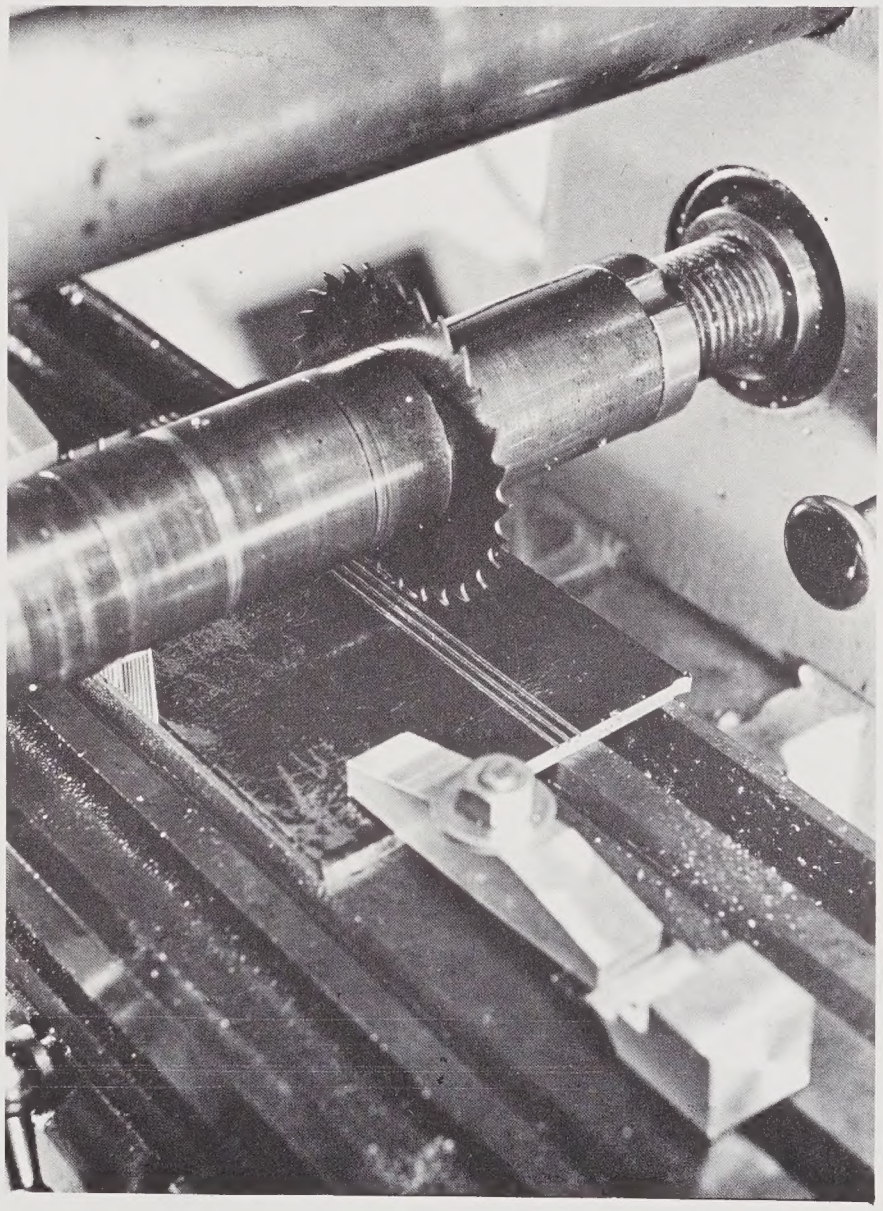
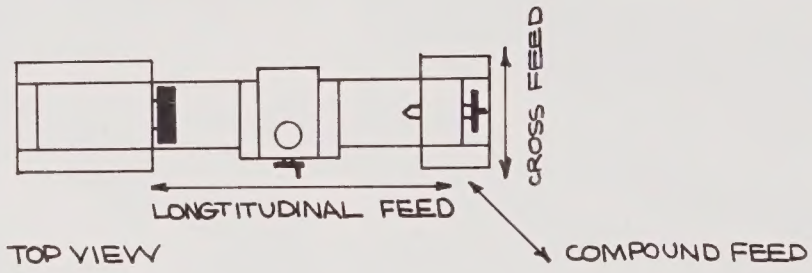


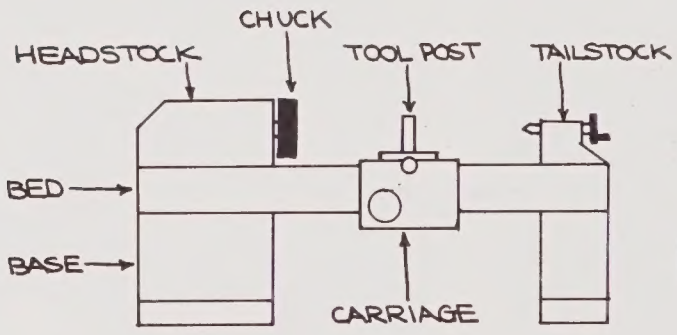
Figure 21

Precision is a matter of degree. What is precise by hand may be relatively imprecise by machine. Although the machine offers precision, it also makes error more noticeable.

Curiously, as one's aesthetic needs demand use of the machine tool, the machine tool reciprocally demands more precision from the operator.

Figure 22





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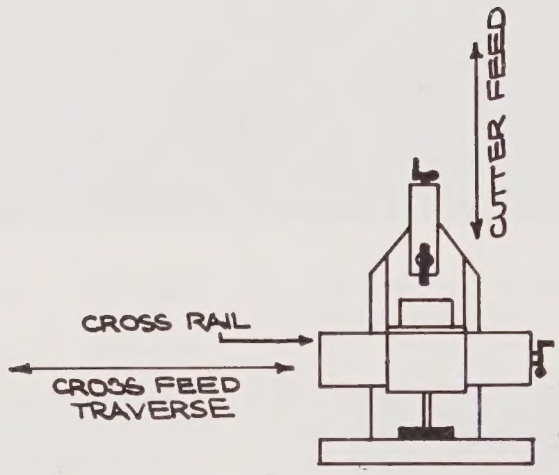
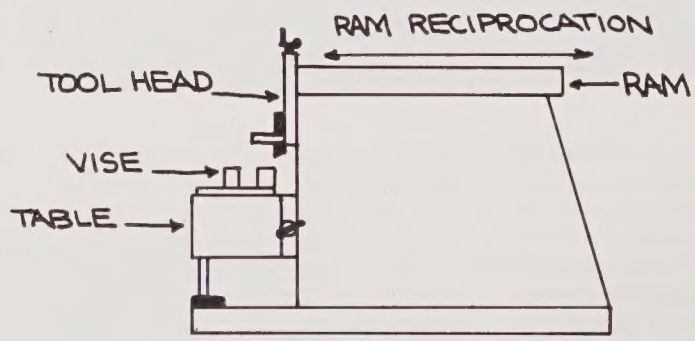
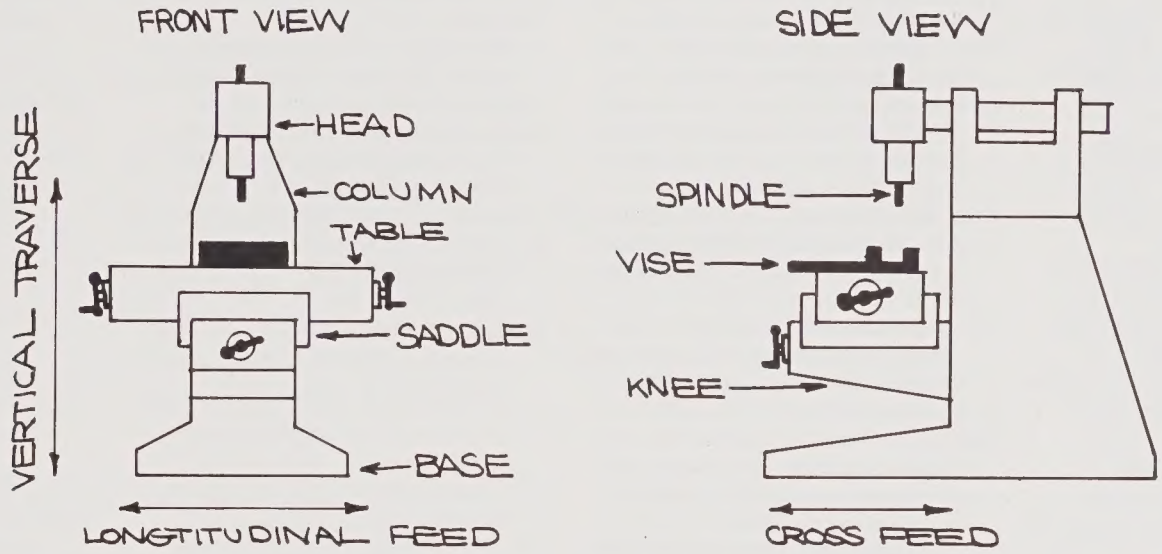
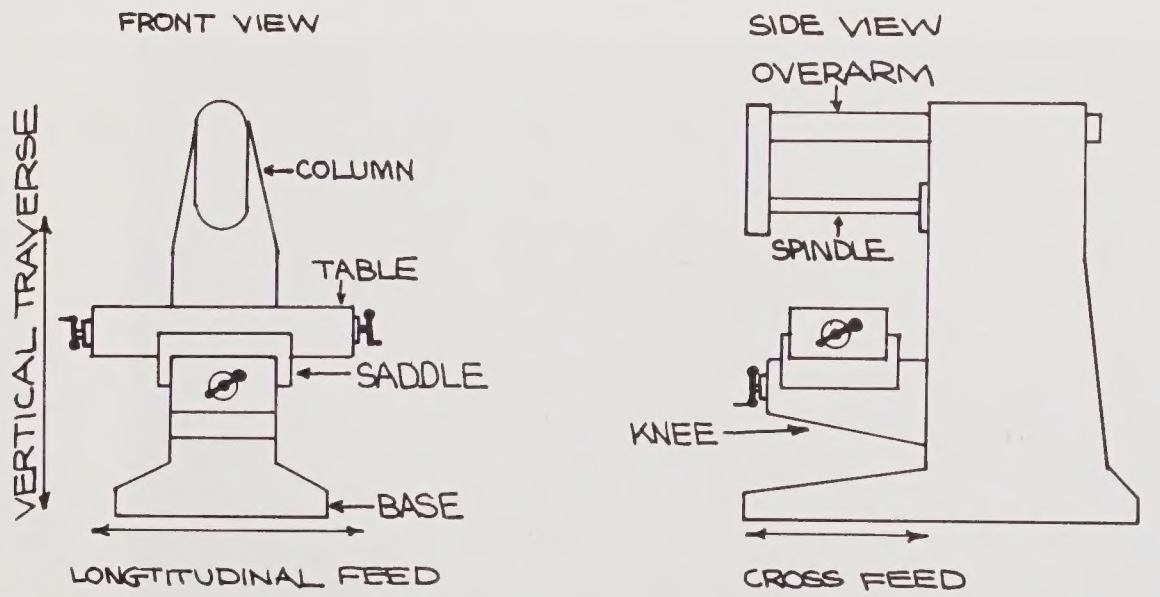




SHAPER



VERTICAL MILL



HORIZONTAL MILL

FOOTNOTES

[1]Kenneth P. Oakley, *Man the Tool Maker* (London: Trustees of the British Museum, 1972), p. 1.

[2]Robert S. Woodbury, "History of the Lathe to 1850," *Studies in the History of Machine Tools* (Cambridge: M.I.T. Press, 1972), p. 23.

[3]Ibid., p. 38.

[4]Denis Diderot, *Encyclopedia of Trades and Industry* (Paris: 1763; reprint ed., New York: Dover Publications, 1959), plates 405, 406.

[5]Robert S. Woodbury, "History of the Milling Machine," *Studies in the History of Machine Tools* (Cambridge: M.I.T. Press, 1972), pp. 48-49.

[6]South Bend Lathe Co., *How to Run a Lathe* (South Bend, Indiana: South Bend Lathe, 1966), p. 34.

[7]S.F. Krar, J.W. Oswald, and J.E. St. Amand, *Technology of Machine Tools* (Toronto: McGraw-Hill of Canada, 1969), p. 201.

[8]W. J. McCarthy and R. E. Smith, *Machine Tool Technology* (Bloomington, Illinois: McKnight and McKnight, 1968), p. 317.

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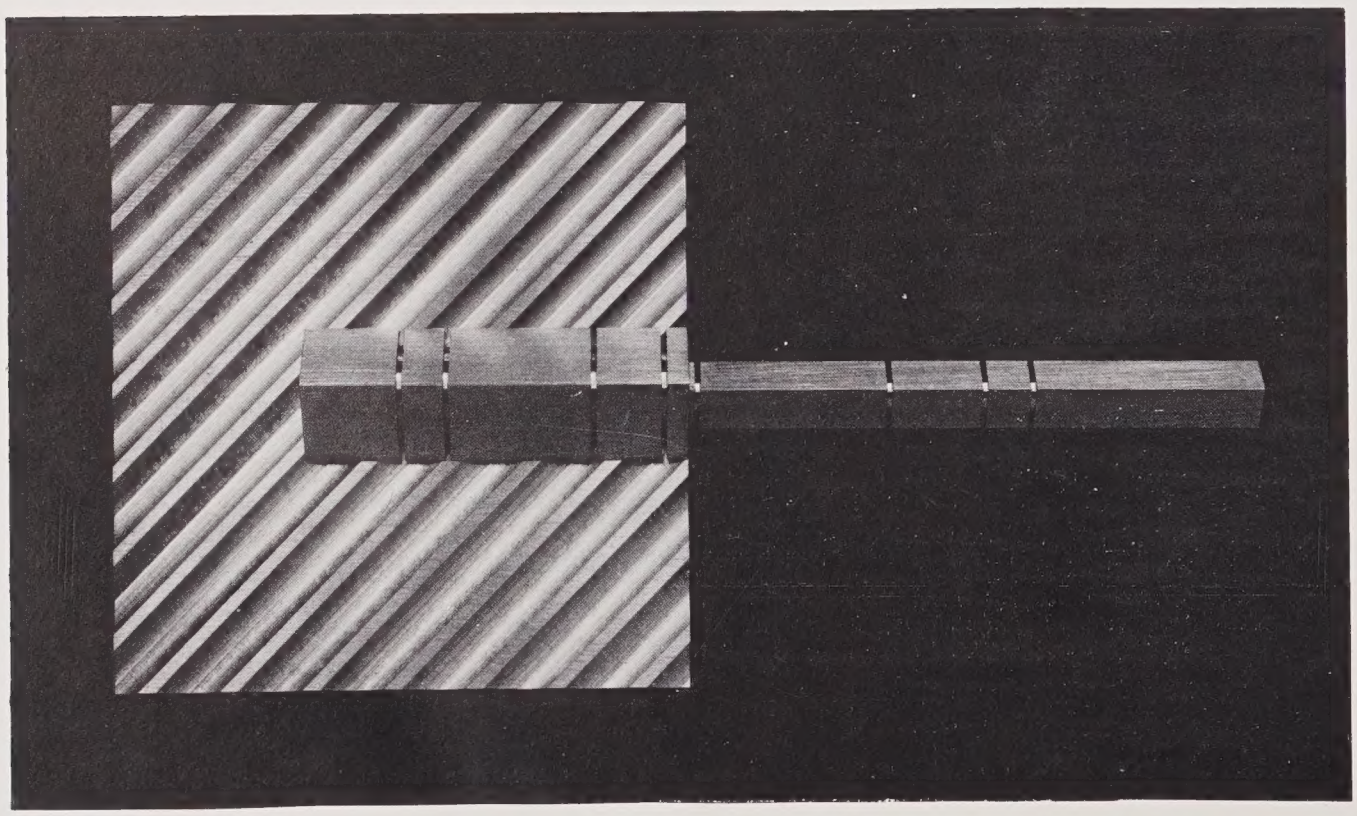
CREDITS

1. Photograph of the Holtzapffel lathe, Figure 1, from the North American Center for Ornamental Turning at the Rochester Institute of Technology.
2. All additional photographs and drawings by the author.

Gary Griffin, "Brooch 77-1", aluminum, 3"h x 6"l – machines used were vertical mill and lathe



INFORMATION

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1979 Craftworker's Market is an annual reference that shows craftspeople where they can sell their crafts. Each listing gives the name, address and special needs of the craft buyer. 62 pages, cost $10.95. For more information, contact: Kirk Polking, 513/984-0717, ext. 239. ■

ANNOUNCEMENTS

RECEPTION FOR DR. FRITZ FALK/MINNESOTA MUSEUM OF ART/OCTOBER 17, 1978

Dr. Fritz Falk, Director of Schmuckmuseum Pforzheim, Pforzheim, Germany, and Mrs. Falk were guests of honor at the members' reception Tuesday, October 17, in the Permanent Collection Gallery of the Minnesota Museum of Art. Dr. Falk visited the museum to select works from THE GOLDSMITH/'78, an exhibition of approximately 200 examples of the metalsmith's art which opened at the Minnesota Museum of Art in Nov., and will remain on view through Dec., 1978.

The exhibition selected by Dr. Falk will be sent to Europe as a traveling show at the close of the exhibition in St. Paul. Included in the show will be jewelry, body sculpture, containers and decorative pieces. The traveling show is scheduled to be shown in Germany, Switzerland, Holland, Norway and England. The Schmuckmuseum Pforzheim, which Dr. Falk heads, reputedly has the most complete historical jewelry collection in the world.

Following the reception, Dr. Falk spoke on the forthcoming exhibition, THE GOLDSMITH/'78, which is sponsored by SNAG, in cooperation with the Museum. Forty-one metalsmiths from approximately 70 SNAG members who submitted works were selected to show pieces in the exhibition. Jurors for the show were Dr. Paul Smith, Director of Contemporary Crafts, NYC; metalsmith Albert Paley, Rochester, NY; and metalsmith Ronald Hayes Pearson, who works in Maine.

Special guests at the reception were Thomas Markusen, Sandra Zilker, and Nilda Fernandez Getty. Hosts for the reception were Ray O. Anderson, Kenneth Jensen, Karl Keller, Paul Medelman, N.M. Rose, John Moran, and G. Lee Runyon.

The Minnesota Museum of Art is a member agency of the St. Paul-Ramsey Arts and Science Council and is accredited by the American Association of Museums. ■

$50,000 PURCHASE OF CANADIAN CRAFTS

(from CCC Press Release, 9/15/78)

Mrs. Jean A. Chalmers of Toronto has given $50,000 to the Canadian Crafts Council to enable it to purchase crafts for its national travelling exhibition, Artisan '78.

The exhibition of 130 of the finest contemporary crafts will cross Canada during 1978-80. Artisan '78 opens in the Walter Phillips Gallery in Banff, Alberta on October 6. 130 craftsmen from across Canada are represented.

Over the past year the work was selected by a jury which included Virginia Watt, managing director of the Canadian Guild of Crafts (Quebec) Montreal; Paul Bennett, executive director of the Ontario Crafts Council, Toronto; Charley Farrero, potter of Saskatchewan and chairman of CCC's exhibition committee; and Orland Larson, goldsmith of Nova Scotia and president of the Canadian Crafts Council.

The exhibition is sponsored by the Canadian Crafts Council with funding from the National Museums of Canada. It is the first time such a major craft exhibition has been organized to travel so extensively in Canada. The craftsmen will be paid a rental fee to show their work.

The exhibition will become known as the Jean A. Chalmers National Craft Collection. It will remain the property of the Canadian Crafts Council.

In 1974 Mrs. Chalmers also purchased the Canadian submission to the World Crafts Council's international exhibition which was held in Toronto to celebrate that organization's tenth anniversary. This collection is owned by the Ontario Crafts Council.

Further details may be obtained from Peter Weinrich, executive director of the Canadian Crafts Council at 46 Elgin St., Ottawa, K1P 5K6, phone 613/235-8200. ■

JIMMY STEWART HONORED

On October 21, James Stewart received the George Eastman Award at the International Museum of Photography in Rochester, NY. Stewart received a kinetic sculpture designed and created by Gary Griffin of the School of American Craftsmen. The kinetic movement allows a dramatic reflection of light from the multifaceted surfaces. It is a statement reflecting the technology and forms of the modern film industry. ■

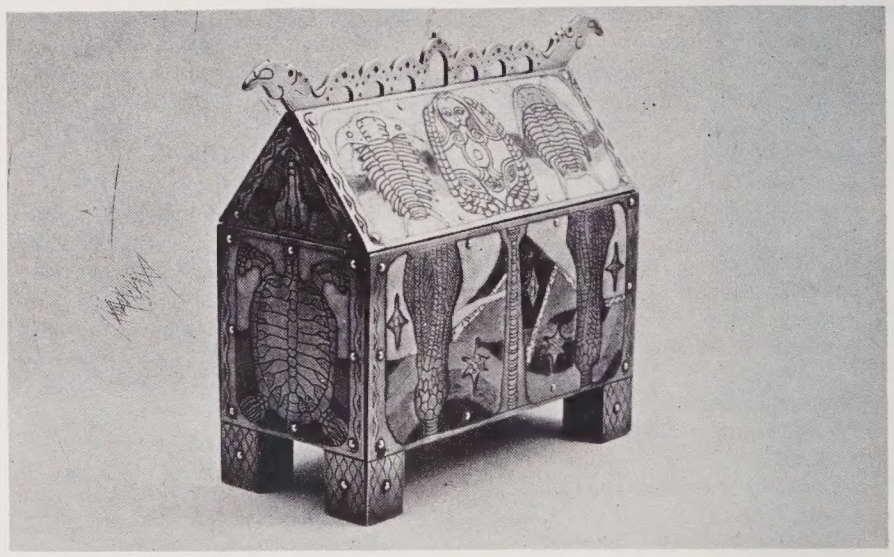
Mary Ellen McDermott, "Reliquary–Gift of the Primal Image", enamel on copper, 6" h (far right)

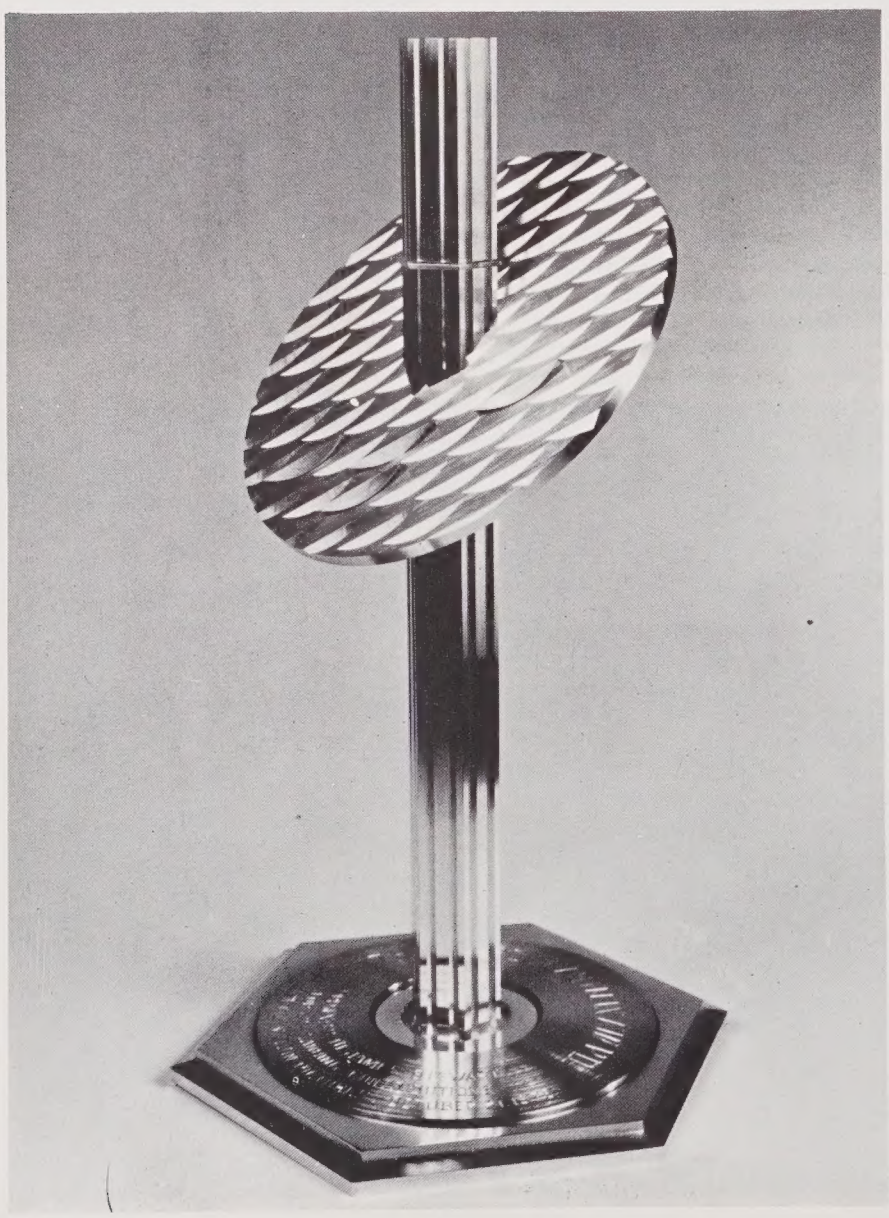
Gary Griffin, "George Eastman Award", aluminum and copper, 12" h (bottom)

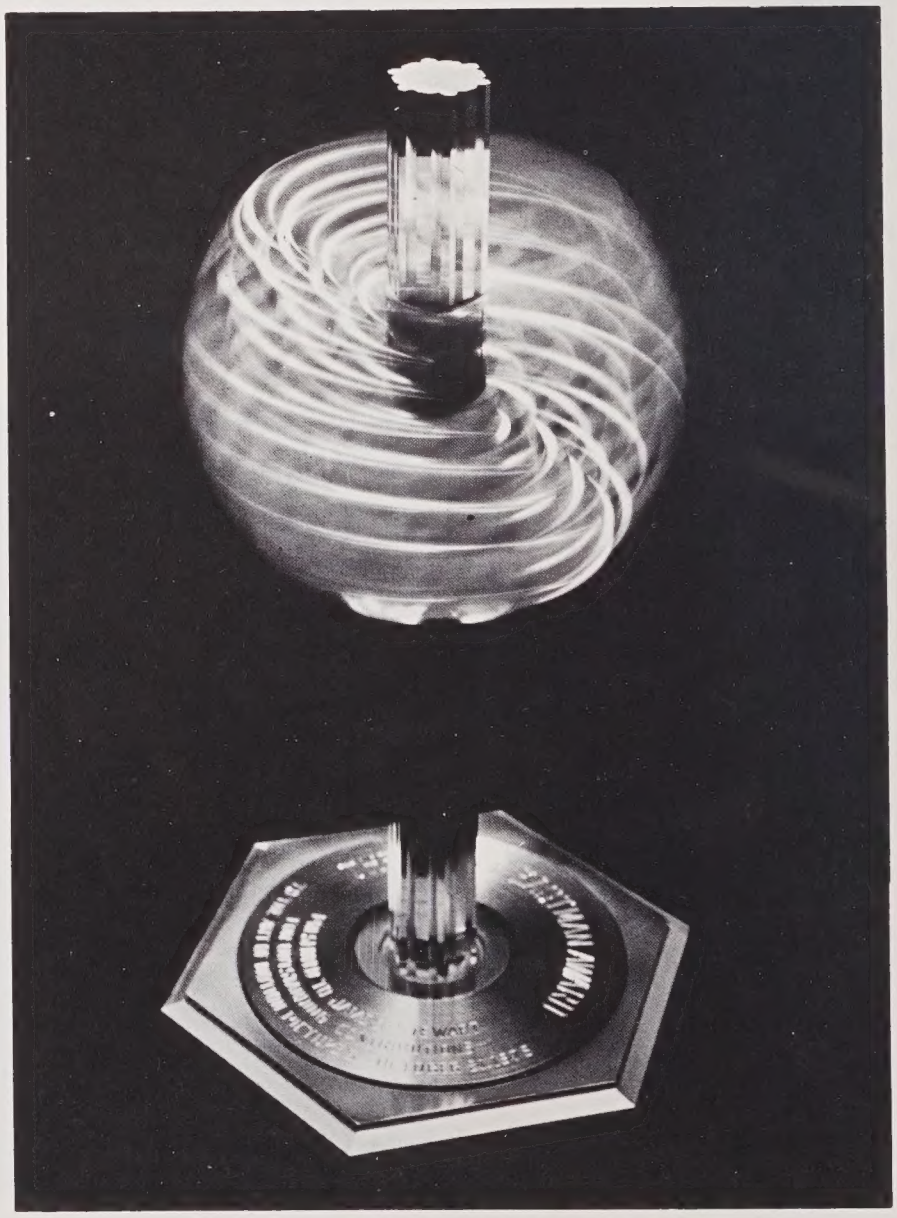
VATICAN PURCHASES WORK OF CIA ENAMELIST

Mary Ellen McDermott's enamel on copper "Reliquary—Gift of the Primal Image", has been purchased by the Vatican Museum to become part of the permanent collection. The work will be on display in the Modern Gallery of the Vatican Museum in Rome, Italy.

The reliquary was selected to be part of a Vatican exhibition honoring the American craftsmen this summer in Rome. The selection committee consisted of Lloyd Herman, director of the Renwick Gallery of the Smithsonian Institution; Paul Smith, director of the Museum of Contemporary Crafts, New York; and Elena Canavier, advisor to the arts for Mrs. Joan Mondale. ■







GENERAL

DIAMOND DONATIONS

Lazare Kaplan & Sons, Inc. will donate $1,000 worth of diamonds of varied size to each of five schools: Abbey School of Jewelry and Art Metal Design; Northern Arizona University; University of Vermont; State University of New York at New Paltz; and Murray State University. They are doing this as a special gesture to enable jewelry design students to work with jewelry in their classes. ■

FELLOWSHIPS

(courtesy of Artist/Craftsmen Information Bulletin, No. 22, Aug. 2, 1978)

From 1421 applicants submitting 10,000 slides, 41 craftspersons from 23 states have been awarded Craftsmen's Fellowships of $7,500 which allows each to pursue career development as he chooses.

Some artists include: Deborah Aguado, New York, NY; William C. Harper, Tallahassee, FL; Ronald H. Pearson, Deer Isle, ME; Hiroko and Eugene Pijanowski, Lafayette, IN; Helen Z. Shirk, San Diego, CA.

Both Craftsmen Fellowships and Artist Fellowships, announced earlier, will be increased to $10,000 next year. Craftspersons working in sculptural or non-functional modes should consider applying in both categories. Upcoming deadlines are October 16 for Artist Fellowships, and December 20 for Craftsmen Fellowships. Write for Guidelines to: Visual Arts Program, National Endowment for the Arts, Washington, DC 20506. ■

ENDOWMENT APPROPRIATIONS

(courtesy of Artist/Craftsmen Information Bulletin, Oct. 25, 1978)

The final appropriation for the National Endowment for the Arts is $149,435,000, a significant increase over previous years, which will allow the Endowment to substantially raise funding levels, particularly in the crafts field. The only reduction in the requested appropriation for the agency was a $225,000 decrease in the administrative budget which will not affect amounts available for grants to artists. ■

THE QUESTION OF NON-PROFIT STATUS

(courtesy of Artist/Craftsmen Information Bulletin, Oct. 11, 1978)

In the past year or so, the non-profit status of a number of crafts organizations, particularly those which sponsor income-earning fairs, has been challenged by the Internal Revenue Service. One group to successfully defend its 501 (c) (3) status is New York State Craftsmen, Inc., which was in danger of losing its tax exemption because of its annual Ithaca Crafts Fair. Attorneys for the group emphasize that the favorable decision is not precedent-setting but that each case must be examined individually. The critical factor is whether the organization in question can effectively document its case by proving that it is EXCLUSIVELY charitable or educational in terms of its original charter. Any commercial activities the group engages in must be a logical outgrowth of the organization's primary activities, and they must be INCIDENTAL to the overall program of the group. IRS offices throughout the country differ in their interpretation of these regulations, so the burden of proof rests with the tax-exempt organization which may appeal an adverse decision to local, state, and national IRS offices. To document its case, any group should keep complete records of all its public service activities — the charitable or educational programs which fulfill the purposes of its charter. To reiterate, these purposes must be exclusively educational; the group cannot be a club for the benefit of its members; for instance, a cooperative gallery formed by artists to sell their works which incidentally is open to the public.

Of enormous help in coping with these and other legal problems is the rapidly growing federation of Volunteer Lawyers for the Arts whose New York chapter maintains a list of VLA organizations and independent law offices or lawyers who will provide free or low cost legal assistance throughout the country. If no office listed below serves your region, seek information from Judith N. Stein, Executive Director, New York Volunteer Lawyers for the Arts, 36 W. 44th St., Suite 1110, New York, NY 10036; 212/575-1150. ■

GOVERNMENT FUNDING BRINGS PROBLEMS TO AUSTRALIAN CRAFTSMEN

(courtesy of Craftworkers Guild of Australia)

As a result of the 1973-74 Australian Craft Inquiry, a number of recommendations were made to help the practicing craftsman, i.e., someone who earns his livelihood from selling his craft in the community. As a result, large amounts of money were given as individual grants and a number of Boards and Corporations, set up to help the crafts, were funded. The effects of this money and the good intentions of these groups have upset the economic balance maintained by the practicing craftsman and a complete restructuring has taken place. We now find groups and craft/teacher associations involving themselves more with art/craft administration and coordination. It is impossible for the practicing craftsman to compete with well organized and very motivated craft/educators. They control or are well represented on all government funded craft decision-making and study bodies while the practicing craftsman's solitary habits of production and lack of scholarly credentials give him no voice in this movement.

In citing examples of the Australian practicing craftsman's plight, we will use the goldsmith/jeweller area of our practice. There are about 3,500 goldsmith/jewelers in Australia engaged in designing small lots or one of a kind work. This is for a market representing all interests using handbrazing techniques and a very low level of technology in workshops of from 1-10 operatives. The products of this group are not recognized as an industry and thus, the Australian government's attempts to remove tariffs against imported goods from the manufacturing industry are being decimated from competition with Asian imports of similar quality and fractional price. In another example, we find practicing craftsmen's work attracts a 27% sales tax; in the early 40's an exemption of $1200 was introduced to help the young starter; however, once this total is exceeded, the entire amount attracts the full tax. Craft/educators, who outnumber practicing craftsmen, also outproduce them in tax exempt crafts. So now, craft/teacher associations are setting up galleries (with funds partly supplied by the government) to sell goods to the public less the tax the practicing craftsman would have to pay selling artifacts of equal quality.

The new craft that a visitor sees in CRAFT AUSTRALIA is basically an avocational exercise that augments income rather than generates a livelihood. The foreigner reading CRAFT AUSTRALIA could be forgiven for thinking all is well here, but Federal and state funding craftsmen had in the community are in the process of creating a new craftsman. This person is basically paid in full or part out of the public purse and operates in an area that tacitly requires tertiary qualifications to use the funds that are available to "Australian Craft." ■

THE WORSHIPFUL COMPANY OF GOLDSMITHS REPORTS ON THE TECHNICAL ADVISORY DEPARTMENT

Mr. Brian Taylor was appointed Research Officer in the early part of the year. As a qualified metallurgist with a background in research and production in the precious metal, jewellery alloy and sophisticated, non-ferrous fields, he is well qualified to assist the Director of Research with the Department's work. The extra member of staff has enabled the research activities to be expanded and further sponsorship is being sought.

Research on gold themes commissioned by Intergold has continued with the projects on 18-carat white golds, low-carat casting golds and the measurement of the colour of gold alloys. The results of this work are now being published in technical journals and appearing as articles in the "Gold Bulletin".

The Technical Department has organised an intensive training course to acquaint three newly-engaged Intergold engineers with all aspects of the British jewellery industry and familiarise them with some techniques used in the craft. After a programme extending over five months, the engineers returned to Geneva to set up a technical service for the gold users of Europe that would be along the lines of the service supplied by the Department to the silversmithing and jewellery industries in the United Kingdom during the last twelve years.

After several years of preparatory work the Company has now organised a major new research project to investigate the tarnishing of silver and experimental work on this development started in October at Birmingham University. Over the years, from the early part of this century onwards, scientists have been challenged by the discoloration that destroys the brilliance and lustre of polished silver unless it is stored in carefully controlled clean conditions. The aim has always been to find out what the tarnish film was, how it was formed and whether it was possible to develop a silver alloy which did not tarnish. Lacquers and films are available which protect polished silver surfaces, but none of these is the final answer since they are thin coatings which are relatively easy to damage when handled and tarnishing then occurs as on an unprotected surface, often in a more unsightly way than on normally polished surfaces. The ultimate aim of a silver surface with inherent resistance to tarnishing which can be produced by a practical, commercial process has not been achieved so far.

In 1975, with the co-operation of the City University, a critical review of all the significant published work on the tarnishing of silver was prepared, which, together with an earlier appraisal, surveys the information since 1900. One clear conclusion was that the results of experiments by one worker could not be related to those of another because there was no test available which could be used to assess the rate of tarnishing comparatively. This review confirmed the Department's thinking that the essential preliminary to further investigation of tarnishing was the development of a test procedure that could be controlled closely, would give reproducible results and allow the atmosphere tarnishing rate to be simulated on a comparative basis.

With the Department's guidance, detailed research proposals were prepared by Birmingham University in 1976 and a consortium of British and European silversmithing and allied trade associations, together with the Royal Mint, have joined with the Department to finance the first year's work.

The subject is complex and the most up-to-date electrochemical techniques and procedures for physical analysis will be used to provide the data on which a new technique for tarnish testing will be based. More than this is not planned for the initial, one-year programme, but the Company will continue the work. The research could lead to major benefits to all those who use silver for decorative purposes, but the effort must continue for several years before results ready for commercial application are available. The ultimate, long term objective is the development of a tarnish-resistant silver electroplate, or possibly a similarly resistant standard silver.

Two visits were made to America during the year. Further contacts were made particularly with a view to seek sponsorship for research for co-operation between the Department and the principal American jewellery and silverware manufacturers' trade association for the mutual benefit of British and American industries.

The Department organised a successful design development project on the colouring of refractory metals at the Royal College of Art, which included the development of a power pack for anodic oxidation to produce the oxide films which cause interference colouring on metals such as titanium, niobium and tantalum. A tantalum bowl and items of coloured jewellery were exhibited and aroused wide interest.

The development Officer, Mr. C. Walton, has given much advice to suppliers of casting equipment and materials and manufacturers of melting furnaces and gas torches, which has been of significant indirect benefit to the industry. ■

AMERICAN CRAFTS COUNCIL BUILDING SOLD

An agreement was reached on Aug. 4, 1978, for the sale of the American Crafts Council's Museum of Contemporary Crafts building at 29 W. 53rd St. to the Museum of Modern Art.

It is expected that the Museum of Contemporary Crafts will close in Dec. and will re-open in 1979 in renovated space which is now the headquarters of the American Crafts Council at 44 W. 53rd St.

Interim office space for the council staff, including *Craft Horizons* magazine, will be made available to the American Crafts Council by the Museum of Modern Art within the next few months. Temporary offices will be at 20 W. 55th St. Plans are being considered for larger facilities that would combine all aspects of the American Crafts Council's program in a single building. ■

FILMS & SLIDES

Concepts Gallery has compiled a slide kit of its recent exhibition, "CONTEMPORARY ENGLISH JEWELERS." It contains 69 slides; 55 of works of Karel Bartosik, Caroline Broadhead, Joel Degen, Edward De-Large, Susanna Heron, Catherine Mannheim, Roger Morris, David Poston, Wendy Ramshaw, Gunilla Treen and James Ward. The cost of the kit is $55, plus $3 fee for postage and handling. Please add $5 if you wish to have the slides in a carousel tray. California residents add 6% sales tax. For more information, write: Doug and Jackie Steakley, Sixth and Mission, P.O. Box 301, Carmel, CA 93921.

"SILVERSMITH OF WILLIAMSBURG" is available for program use. The cost is $25. For further information, write AV Distribution Section, Colonial Williamsburg Foundation, Box C, Williamsburg, VA 23185.

A color slide program of the 1978 Sterling Silver Design Competition is now available to schools. For more information, write: Sterling Silversmiths Guild, 1111 E. Putnam Ave., Riverside, CT. ■

OPPORTUNITIES

POSITIONS

EXHIBITION OPPORTUNITIES

Susan Myette, Impressions Workshop, Inc., 27 Stanhope St., Boston, MA 02116, is very interested in presenting fine jewelry by contemporary artists. Send slides only (not actual pieces) to the above address.

NEW CRAFTS GALLERY OPENS

Jockey Hollow Gallery, a new craft shop and gallery has opened (Oct. 3) in Morristown, NJ. The new gallery contains a wide array of crafts in fiber, wood, ceramic, metal and glass. The gallery is located in a building completely renovated and designed specifically for crafts exhibition and merchandising. The gallery director, Kathryn McGuire, says that Jockey Hollow Gallery plans several major craft exhibitions during the upcoming year. Professional craftsmen are invited to send slides of their work to Mrs. McGuire for exhibition and purchase consideration. Jockey Hollow Gallery is located at 985 Mount Kemble Ave. (U.S. Rt. 202), Morristown, NJ 07960. ■

A 25-year-old jewelry workshop wishes to employ a master-jeweler with broad background in techniques, especially knowledgeable in limited production tooling and methods. Learn methods, assist in teaching and development of new designs, and in less than two years supervise entire production. Workshop is located in charming Vermont border town. Send resume, stating salary desired and telephone number to: Ed Levin, P.O. Box 272, Cambridge, NY 12816.

The South Carolina Arts Commission needs to employ a crafts organization specialist immediately. The salary is $382 bi-weekly, and has retirement and health benefits as an employee of the State of South Carolina. Send resume to: Crafts Development Coordinator, South Carolina Arts Commission, 1800 Gervais St., Columbia, SC 29201. No telephone inquiries.

Job Opening: Indiana University: Silversmithing/Jewelry Design. Application deadline, Feb. 15, 1979. MFA degree preferred. College level teaching experience preferred. Salary open, rank Assistant Professor. Responsibilities include teaching undergraduate (and graduate) students, committee participation, development of metal area and program. Application requirement: resume, transcripts, 20 slides of work, 20 slides of student work (your name affixed to each slide), statement concerning professional and teaching philosophies, self-addressed envelope with postage affixed for return of slides, and three letters of reference. Application will not be considered until the above requirements are on file. Send all applications to Professor Leslie Leupp, Chairman, Metals Search Committee, Dept. of Fine Arts, Fine Arts Bldg., Indiana University, Bloomington, IN 47405. Indiana University is an Affirmative Action/ Equal Opportunity Employer. ■

Deadline Date: Jan. 9, 1979; March 9-30, Pensacola National Crafts Exhibition, Visual Arts Gallery, Pensacola Jr. College, Pensacola, FL. $1200 in purchases, plus invitations to solo or group shows. Preliminary judging by slides. For prospectus, write: Allan Peterson, Director, Visual Arts Gallery, P.J.C., 1000 College Blvd, Pensacola, FL 32504.

Slides Due: Jan. 20, 1979; Sixth Annual Midwest Craft Festival, April 21-22; Open to craftsmen in all media in IL, IN, KY, MI, MS, and WI. For more information, write: North Shore Art League, 620 Lincoln Ave., Winnetha, IL 60093.

Deadline Date: Feb. 1, 1979; May 19-20; 9th Annual Craft Fair, five slides and a $5 fee should be submitted by deadline date. For further information, contact: Registrar, Craft Center Fair, 25 Sagamore Rd., Worcester, MA 01605, or call 617/753-8183.

Deadline Date: Feb. 10, 1979; April 17-May 13; The Marietta National '79, The Twelfth Annual Marietta College Competitive Exhibition of Painting & Sculpture, at the Grover M. Herman Fine Arts Center. For prospectus, write: The Marietta National, Arthur Howard Winer, Director, Marietta College, Marietta, OH 45750.

Deadline Date: May 1, 1979; 1979 Sterling Silver Design Competition; open to students only. For more information, write: Sterling Silversmiths Guild of America, 111 E. Putnam Ave., Riverside, CT 06878. ■

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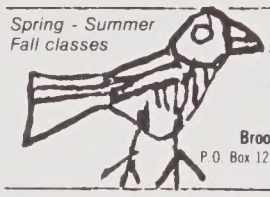

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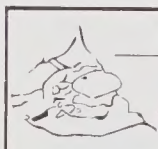

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PEOPLE

CONVERSATIONS WITH STANLEY LECHTZIN (USE OF PLASTIC IN JEWELRY)

by Mark Baldridge

(Editor's Note: Stanley Lechtzin was interviewed during a workshop he conducted at Longwood. Our conversation was spontaneous and unrehearsed.)

MARK: I'd like to discuss the use of plastics enjoyed today and since you are an active user of this material, Stan — could you tell me some of the reasons you use plastics in your work versus other materials?

STAN: Well, first I would say that in my own mind I'm no longer as committed to metal specifically as a material as perhaps I once was. I still enjoy working with it as it's a material that does many things, but I don't think of myself solely as a metalsmith. We have a long tradition, even as goldsmiths, of using materials other than metal for accents and compliments in our work — gems and minerals have been used and respected for centuries by jewelers, as well as wood, bone, ivory, and other natural, non-metal materials. I think an extension of that attitude would be in order, and plastics, being very intriguing for their visual qualities, lend themselves to this use. Once one begins working with plastics, he realizes that, unlike many of the natural occurring materials used in the past, plastics can be formulated and adapted with a multitude of variations. You can create them in any color or surface — transparent, translucent or opaque, and manipulate them in virtually any way you want. This versatility of plastics is what attracted me to them initially and in recent years my work has begun to be dominated by plastics rather than by metal. I am currently using metal as an accent to my plastic forms, but I don't hold any particular brief for that — it happens to be the way it's working out now; however, tomorrow it may change. I'm not interested in formulating rules about how much metal you can use in relation to plastic or vice-versa. I don't think that's what art is all about. Ideas come along, you execute them and then as your ideas change, the way you execute them will change and that's really what it's all about. I'm not trying to set myself up as a prosalitizer for plastic use. I don't try to convert people into the use of plastics, nor would I discourage it. Frankly, I don't care what materials people employ, as I'm much more concerned with how well they employ them.

MARK: What would you say to people who feel that plastic is impermanent and, therefore, inferior?

STAN: I'd say that wood isn't any more permanent; bone and ivory are subject to the same deterioration that many of the plastics are; and some minerals we employ are perhaps even more sensitive to the vagaries of time and environment than plastic, such as opal and turquoise. I don't think there is a way of ruling out materials — when one selects a material for a particular application in their work, they should do so with a knowledge of how that material behaves and then utilize it with that knowledge.

MARK: I know some people have had problems with maintaining certain colors. Do you feel this has been solved or is the loss of brilliance unavoidable?

STAN: That's an ongoing area for research. As you become involved with plastics as a group, you owe it to yourself to check out the color fastness of the dyes and pigments that you use. Some are very permanent and durable, while others have a short usable life and should be discarded. It's not difficult to establish accelerated aging tests. You merely make up samples and put them in the sun for two weeks to two months and you'll know whether they're going to hold up or not. And, if you're conscientious in your testing and application, that shouldn't be a problem. We've seen plastic objects around us every day that are, on the contrary, too durable for our own comfort. They maintain their life longer than we would like and its been predicted that some plastics will be around for centuries. No matter what we do, we're not going to destroy them and that's true of colored as well as colorless. So, depending on your choices, plastic can be durable or transitory. Obviously using it without proper knowledge can cause the same problems as using metal without proper knowledge. We can say, "well gosh, you know metal is so limited all I can buy is 20 gauge wire and 18 gauge sheet and how much can you do with that?" Maybe a perfectly valid statement for somebody with a limited knowledge of metal, but as you become more familiar with what is available to you in terms of process and alloys, you begin to realize that it's a pretty open field.

MARK: Metal, because of its strength and resiliency, is difficult to form. What would you say to people who feel plastic is so easy to work with that it's almost like cheating?

STAN: Well, I would disagree with their premise —that question supposes or presupposes difficulty is directly related to quality, and that the more difficult a process is, the better the quality of the resulting object, and I would disagree with that premise. I'm not even discussing now the relative difficulty or ease with which materials can be manipulated, because I really don't think that's important except to the individual doing the manipulating. Depending upon your own particular psychological makeup and emotional needs, you will select things that are easy to manipulate or difficult. I would be reluctant to dispose of all draftsmanship because it's easy to manipulate a pencil on a piece of paper. Or invalidate high quality drawing as art because it's relatively easy to push a paintbrush across a canvas. Some processes are clearly easier to employ than others, but that should only be of concern as you're learning the process. If it's one that can be quickly mastered, so much the better. I'm not sure those people who quickly dismiss processes because they're easy will think the same once they actually get involved in the process. There are aesthetic decisions to be made that are perhaps much more difficult than those decisions one would immediately associate with material manipulation.

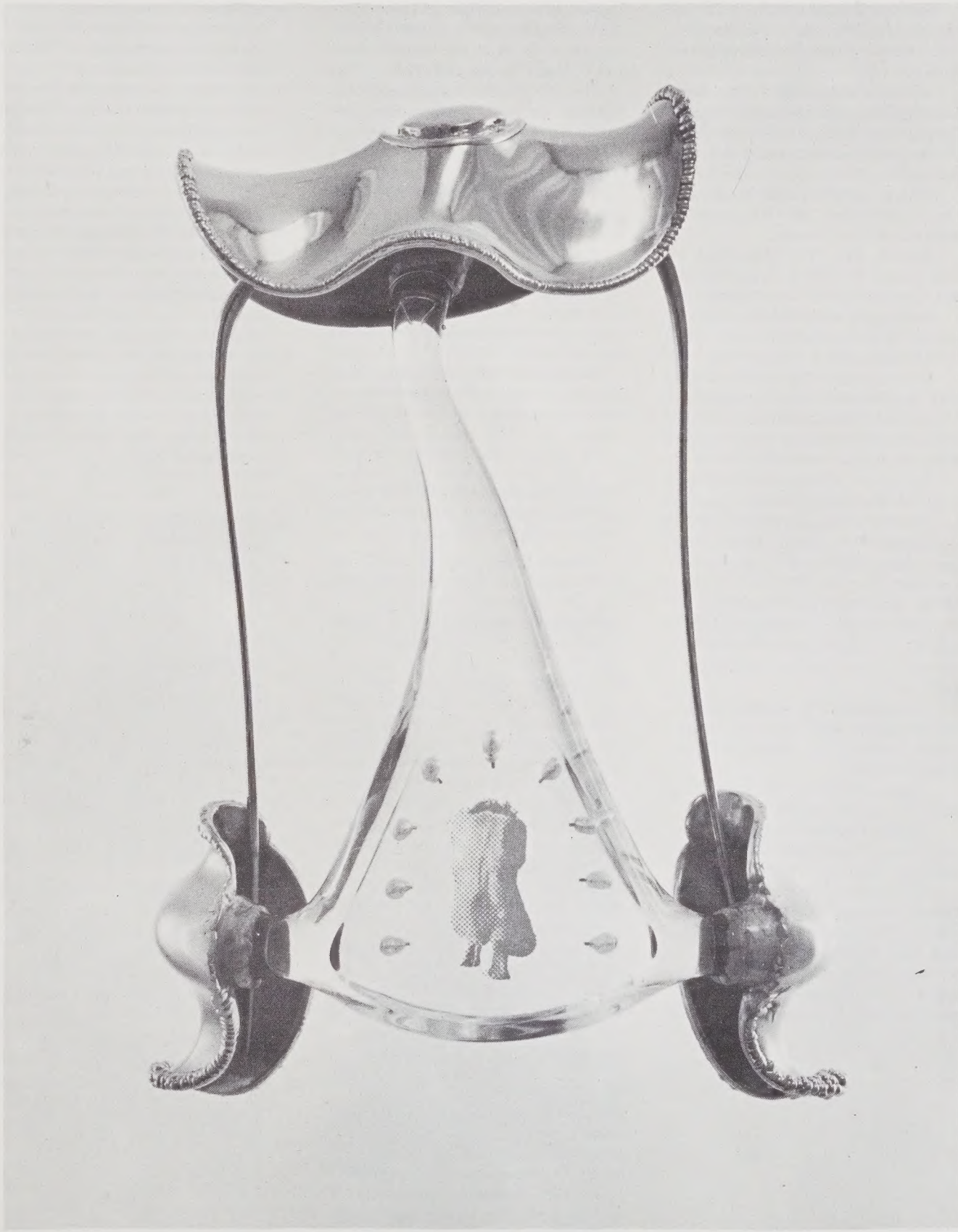
MARK: A lot of people naturally associate plastics with cheapness and therefore would hesitate to purchase jewelry of that nature. How do you feel about this?

STAN: That may be true now, but it's something difficult for me to address because I can't get into the minds of every potential jewelry buyer and determine in advance what their particular prejudices are. I think it's true there are a lot of people who equate plastics with cheapness, however, that's a false premise. The only thing that really makes plastic cheap is the fact that it is produced in great quantities, but when you work plastics as an artist in your own studio, using simple hand processes for limited production, you'll find that on the contrary, it tends to be very expensive. If you can convey this precious quality in your work, there is a potential buying public for it. We do not have an unlimited supply of raw materials that go into making plastic and we are capable of exhausting those resources. Virtually all the

plastics we work with today are petro-chemicals and we all know the problems associated with our oil supplies. So these things are truly precious and instead of using them in the profligate manner of industry, we ought to be more careful with them. One of the objectives and responsibilities an artist could assume is the demonstration that plastics are precious. I would hope that I communicate this in my own work.

MARK: Recently I heard a gallery owner in New York state that they would not sell anything in the shop that had plastics in it because they had experienced problems with scratching or breaking and they found people just simply would not buy it. Would you have a response toward that?

STAN: Well, I would assume that gallery owner doesn't handle any working glass done by artists either, because that's obviously very fragile. Fibers can also be a hazard because they catch fire easily, etc. So I would assume this individual deals solely with jewelry. There is no material that will universally withstand all possible abuse. I think if plastic is used intelligently by the artist and handled intelligently by the consumer it will present no problems. Now if there is a sales resistance which you suggest exists, then I would not argue that point. It may exist; it probably does exist. If there is such resistance and the gallery owner doesn't wish to try and re-educate the buyer then there's nothing I can do to encourage him, other than perhaps create a demand; then gallery owners will begin to handle it. There is no question about that. If your work is appealing, if there is a buying public, the galleries will follow suit. I've never had that problem though, because nobody ever refused to exhibit or sell my work because it's plastic. ■



Stanley Lechtzin, Broach, electroformed silver gilt with vapor deposited gold image and pearls embedded in clear cast acrylic

UPCOMING EVENTS

EXHIBITIONS

El Paso, TX, "Fantasia of Christmas Ornaments," Nov. 24-Dec. 31, to be held at Tiara's Metalsmiths Gallery.

Glendale, CA, 1978 Juried Membership Show; sponsored by Enamel Guild: West; Dec. 2, 1978-Jan. 2, 1979; to be held at Brand Library Art Gallery.

Worcester, MA, Metal Views; Dec. 1, 1978-Jan. 12, 1979; to be held at the Craft Center.

Reston, VA, "The Elements," Feb. 2-Mar. 11, 1979; to be held at the Greater Reston Arts Center, Inc.

Baltimore, MD, The Baltimore Winter Market; wholesale days: Feb. 21-22; public days: Feb. 23-25.

Craft Alliance Gallery, St. Louis, MO, presents the following exhibits: "Metals for New Collectors," March 4-28; "Metal Constructions and The Fiber Surface," June 3-27.

Rochester, NY; Women's Work, Nov. 18-Jan. 6, to be held at the Gallery of Contemporary Metalsmithing.

Carmel, CA; Jewelry by Alan Revere, Nov. 18-Dec. 29, to be held at Concepts.

St. Paul, MN, The Goldsmith '78, Nov. 8-Dec. 29, sponsored by SNAG in cooperation with, and to be held at, the Minnesota Museum of Art.

Philadelphia, PA, student work of the Bezalel Academy, Jerusalem, Israel, opening Dec. 10 at the Tyler School of Art.

Greenwich, CN, "The Elements," Nov. 21-Jan. 12, 1979.

Cheney Cowles Museum, "The Container," Northwest Crafts Invitational Exhibition, Dec. 1978.

"Treasures of Early Irish Art," Boston Museum of Fine Arts, Oct. 24-Jan. 21; Philadelphia Museum of Art, Feb. 26-May 27.

Whitewater, WI, "A Detailed Look," Jan. 17-Feb. 2, 1979, to be held at the Crossman Gallery. ■

CONFERENCES

Feb. 11-14, 1979; RJA Spring International Jewelry Trade Show and Conference, Americana & New York Hilton Hotels, NY, NY.

Feb. 24-25, 1979; Minnesota Retail Jewelers Assn. 75th Annual Convention and Upper Midwest Jewelers Trade Show, Radisson South Hotel, Bloomington, MN.

March 16-19, 1979; California Jewelers Assn. Annual Convention, Hotel Coronado, Coronado, CA.

April 6-8, 1979; Second Annual Spring Conference, to be held at Sacramento State College. For more information, write: California Blacksmith Assn., 737 Dwight Way, Berkeley, CA 94710.

April 7-10, 1979; American Gem Society Conclave, Shoreham Hotel, Washington, DC.

WHITE HOUSE CONFERENCES

(courtesy of Artist/Craftsmen Information Bulletin, Oct. 25, 1978)

Organization of the White House Conferences on the Arts and Humanities has waited on Congressional appropriation of funds and apparently will wait some months longer. The Conference Committee which reviewed the budget request disapproved the recommendation that both conferences be funded from existing Endowment program budgets and indicated that the amount authorized, $1.4 million to each for state or regional meetings and the final conference, was inadequate. Noting that White House conferences normally receive special appropriations, the Committee indicated that it would be willing to consider a request at a more appropriate level when the supplemental budget for fiscal 1979 is presented to Congress, probably in March. If funds are appropriated in the spring, names will be submitted to the President for appointment to a 15-member planning commission for each Endowment. Administratively it will be difficult if not impossible to arrange these meetings during 1979; therefore, it is likely they will occur in 1980. Craftspersons need to remain alert to developments at the state and local levels to ensure their own participation in the process. ■

WORKSHOPS

James Ward, English jeweler, is interested in visiting the U.S. and conducting workshops in "Metal Coloration of Titanium." The technique promises to be one of the most important technicalities in metal/jewelry in this part of the century. Mr. Ward has had extensive training and experience in his field and was recently featured in Craft Horizon. Technical requirements of the coloration process include access to hot water, electricity (main box), a vented hood and titanium. Workshops should be for a minimum of a week in which time each school could learn how to build its own low-cost unit and carry on experiments afterward. For additional information, write: James Ward, 273 Fulham Rd., London, England SW10.

Advanced Jewelry Making Techniques, covering a wide variety of processes with Harold O'Connor. Dates: May 21-June 1, June 4-15, June 25-July 6, July 9-20, July 30-Aug. 10, Aug. 13-24, Sept. 3-14, Oct. 1-22. For further information write: Dunconor Design Workshops, Box 200, Crested Butte, CO.

The American Crafts Council and the Greenwood Gallery are sponsoring the following workshops: Jan. 13-14, John Heller, Metal; Feb. 10-11, Jamie Bennett, Enamels; March 10-11, Heikki Seppa, Metal (shell structures).

For registration information, contact: Carolyn A. Hecker, Greenwood Gallery, Suite 905, 1025 Conn. Ave., Washington, DC 20036, or call 202/833-2910.

Reservations are now being accepted for GIA's one and two week classes in Diamond Grading, Gem Identification, Diamond Setting, Jewelry Repair, Gem Cutting, Jewelry Design, Wax Carving & Modeling. The classes are scheduled throughout 1979 and are offered in Santa Monica, CA, and other cities across the U.S. For more information, write: GIA, 1660 Stewart St., P.O. Box 2110, Santa Monica, CA 90406.

March 6, 7, & 8, Shell-Forming with Heikki Seppa; Harrisonburg, VA (Madison University); sponsored by Virginia Crafts Council. Write for additional information, costs, etc.: Mary Maher, VCC, 1511 Rugby Ave., Charlottesville, VA 22901.

The Craft Center is presenting 10-week sessions starting Jan. 29, and April 9, on "Enameling," program for beginners and advanced students, $50 for 10 weeks, lab fee $7; "Jewelry Design," basic metalwork techniques, $50 for 10 weeks, lab fee $7.

College credit is available through Clark University, COPACE. For more information, write Craft Center, 25 Sagamore Rd., Worcester, MA 01605. ■

EDITORIALS

EXHIBITION REACTIONS

by Robert Liu

While reviewing THE METALSMITH (Phoenix Museum of Art, Phoenix, AZ, Jan. 14-Feb. 20, 1977) and other recent shows of contemporary American jewelers, my reactions have prompted me to discuss certain aspects of exhibitions and their catalogs. For jewelers/metalsmiths, as well as other artists working in visual media, exhibitions are a primary means of exposure. Such exposure can lead to invitations to other shows, single or group gallery shows, sales/commissions and inclusion in publications and books. This is especially important for jewelers since study of this field of art is relatively limited. Its practitioners are widely distributed geographically, and there are almost no other means of becoming known. For those who seek to gain national and international recognition from one's colleagues and from the small but influential group engaged in teaching jewelry/metalsmithing at the college level, it is almost mandatory to exhibit.

For the public, exhibitions serve as an important means of learning about jewelry, especially contemporary jewelry. For most people, exposure is limited to commercial jewelry or the very occasional exhibition of archaeological or historical jewelry. It is difficult for the public to know about contemporary jewelry because their creators are wide spread and work in relative isolation. Thus, the exhibition and its accompanying catalog should and can serve as important educational devices rather than being merely the assemblage of aesthetic objects.

Do jewelry exhibitions now fulfill that need? If not, how can the educational effectiveness of a jewelry exhibition be maximized? In order to answer this question, it is necessary to briefly review the current status. Significant exhibitions of contemporary jewelry in the U.S. number at most 4-6 per year. Most are at museums in smaller cities, of relatively short duration (month or less), with few provisions for traveling. This results in a rather limited exposure with regard to the number of people attending. And finally consider the work and expense involved in any exhibition: initiation of the idea, determination of feasibility, printing of promotional/entry literature, processing of entries (slides or actual pieces), choosing and assembling the jurors, juroring of the pieces, return of rejected material, design and production of the catalog and exhibit installation, generation of publicity about the exhibition, the opening and attendant ceremonies, security during the show, disassembly of the show, packing and return of exhibit pieces and insurance to cover all phases of this process which are under the museum's jurisdiction.

Whether invitational or by open competition, most exhibitions do not have a theme beyond mere geographic or organizational representation. The accompanying catalog usually contains a minimum of information about the purpose of the show, and the works/artists. Rarely is a monographic approach taken, in which information besides the listing or cataloging is included. The installations display a minimum of labelling, so that the viewer is essentially only presented an array of aesthetic objects to be viewed, with little direction as to what information can be gotten out of this assemblage.

To increase the educational effectiveness of jewelry exhibitions, there need be only changes in practice and policy. Wider exposure could be accomplished by increasing the duration of shows and number of traveling exhibitions. Once the initial high cost of assembling an exhibition has been bourne by the home institution, other institutions can take advantage of having the same show for much lower costs. This is not only a cost-effective process, it allows many other institutions and their patrons to enjoy the benefits of a show which may have been beyond the capacity/interests of their own curatorial staff to assemble.

Since the catalog is the only permanent record of a show, it should be useful not only during the duration of the exhibit(s), but as a document for future study by students and researchers. Thus minimal requirements for a catalog include a comprehensive statement on the purpose/theme of the show, complete information as possible about the artists and their work (including the all important data on dimensions, materials and techniques used, date completed, and accurate photographs) selection process, qualifications of the jurors and any significant trends or techniques being utilized. Having an informative and explanatory catalog can mean the difference between the catalog being only of use to a select group of jewelers/metalsmiths or of it having heuristic value to the general public. All too often it is presumed that the public would not be interested in technical information on techniques, trends, intentions, purposes, points of interest or other subtleties of a piece of jewelry or its maker. But if the people who have such knowledge (museum curators and the artists) do not provide the guidance, how can the level of knowledge of the public ever be elevated, how can the ornamental or trivial image of jewelry ever be dispelled?

Along with a comprehensive catalog, there should be a much more complete labelling of a show, labelling which parallels information in the catalog, since not all viewers purchase the catalog, or read it prior or during viewing of the exhibition. Even for those who have the catalog or have read the catalog, explanations placed beside the exhibited items have a greater impact than the same material presented in the catalog.

The combination of reading about a point of interest, then seeing that in the described object, possibly later reinforced by reading that same point in the catalog, provides a very strong and effective (in fact, painless) way of learning. Since stocks of the catalog and copies of the labels can easily accompany the traveling exhibition, it is an easy matter for all participating institutions to share in this aspect of the exhibition. Finally, if seminars/workshops could be coordinated with the exhibition material and/or participating artists, an additional and meaningful way of teaching would be incorporated. All these aforementioned measures would help us to maximize the benefits of an exhibition with relatively little additional work/expense. ■

EDITOR'S NOTE: Because of the variety and nature of the Letters-to-the-Editor, SNAG and the Goldsmiths Journal cannot verify or be responsible for the material these letters may contain. It is therefore suggested that you carefully analyze and verify all information herein. We will consider publishing responsible letters which refute any information we publish.

Dear Editor,

Just a brief note to congratulate those SNAG members: Heikki Seppa, Mary Lee Hu, William Harper, and Mary Ann Scherr, for their recent exhibition at Goldsmiths' Hall. I would also like to thank Paulette Myers for sharing her observations and Joseph Ordos for helping make the exhibition possible.

The efforts of these people and cooperation by Graham Hughs of Goldsmiths' Hall and the Minnesota Institute of Arts may well prove to be a significant step in building an international bond between the metal arts of the U.S. and Great Britain.

Chuck Evans ■

Dear Editor,

In response to Chuck Evans' comment that, "fine art programs are producing good designers and I hope they continue to be trained as artists," I must passionately disagree. In my opinion a large portion of the work produced by these designers or fine art jewelers is poorly constructed rubbish. These so-called works of art are self-indulgent and overly personal and communicate little or no aesthetic feeling. They are so "personal" that no one can appreciate or understand them as works of art except for the rest of the clique of fine art jewelers who by and large only appreciate these works for their so-called "technical virtuosity."

What are these "good designers" doing? In the same issue, Mr. Sam Beizer states, "I've talked to store owners and they ask me 'How can we find out who is making this kind of jewelry; they never step into our stores?' ". Since they don't seem to be producing enough jewelry to sell in stores and don't appear to be taking designer positions in manufacturing firms, I can only assume that most of the graduates of the various metalsmithing programs are not pursuing a career in metalsmithing or they are teaching at various institutions or adult art education centers. I don't think this is a very healthy situation and I believe it has developed primarily because they were "trained as artists." This training, in essence, tremendously overemphasizes the aesthetic and philosophical concerns of the student while neglecting both solid technical training and practical advice about making a living. In short, the universities are not turning out decent craftsmen and are not turning out decent designers. My definition of the terms decent craftsmen and designers is that a craftsman be competent in filing, soldering, and polishing and to be familiar with the other metalsmithing techniques, and that a designer be able to do drawings and color renderings. By practical advice I mean such things as how and where to purchase tools, how to obtain a business card, and what is involved in setting up a small business.

I am not advocating the creation of technical schools in the European model because I feel they can be inhibiting to a person who wishes to design and create his own jewelry. The universities are doing a gross disservice to their students by not incorporating more practical training into their programs.

Why does this situation exist? It is my feeling that the university atmosphere is permeated with the attitude that only there can quality craft, high art, or meaningful scholarship be produced. This ivory tower attitude implies that anything done in industry (an all-encompassing term used to define anything outside the university), is debased, commercial trash with value only for "the masses" who are viewed as insensitive fools. There are elements of truth in this condescention, but taken as a whole it is absurd.

Strict technical training is by and large looked down upon because the feeling is that this training will be obtained upon leaving the university. I think this is a dubious assumption because after the average student has had three years to do more or less what he wishes (within the confines of an assignment, if there is one) and to take as much time as he feels it is necessary to complete his piece, there will probably be a reluctance (due to the enormity of his artistic ego, nurtured by the university atmosphere) to place himself in a situation where he will be doing someone else's work and to complete that piece in a limited amount of time. After graduation these students usually head to that great sanctuary for people who wish to refrain from entering the job market, graduate school, which is merely more of the same indoctrination of "artistic training." Usually after departure from that institution, the individual, if he's lucky, obtains some form of teaching job or becomes a perennial workshop instructor and proceeds to give the same brand of myopic, insular, overly philosophical "training" to new groups of interested students. Some of these instructors might correctly be called professional educators, while others just as correctly might be called parasites of the university.

I am not advocating a complete disposal of the present structure of the metalsmithing programs. They have their strong points, and with just a slight shift of emphasis they could become more responsive to the real needs of their students.

I know that there is a tremendous amount of energy being expended in the metalsmithing field today. I respect and admire this, but believe a portion of that energy is misguided.

David Benedek ■

Dear Editor,

Just a brief note of thanks to those of our members who have given me their help and support during the past six years while teaching at Bowling Green State University. I do hope our paths continue to cross at conferences, our travels and through the JOURNAL. I've recently accepted a new teaching position at Iowa State University, where my predecessor Barbara Becker worked very hard building an excellent program and designing a new metals studio in the University Design Center.

Sincere thanks and especially to Barbara!

Chuck Evans ■

Dear SNAG Members,

We think SNAG is long overdue in joining the campaign to boycott states that have not passed the ERA. We feel it was an insult to all the women members of this organization to have held this year's conference in Missouri, a state that has not ratified the amendment. We are assuming that it is not necessary for us to justify our stand on this issue. We would feel proud to be able to add SNAG to NOW's long list of organizations that have joined the boycott.

Deborah L. Norton
Barry S. Merritt ■

Dear Editor,

I am wondering if you would be able to give us suggested rates for jewelry repairs, in both sterling and gold. We are just beginning to sell our jewelry and have done some repairs, but are not always certain what to charge.

G. Butler ■

Dear Editor,

Thank you for your inquiry about the Knifemakers Guild. The members in our Guild are not just from America, so we like to feel that our organization is international.

There are only a few members who are making knives with a forge. Most of us use a belt grinder, and a stock removal method.

Our two crafts are very much parallel, as we use the precious metals in various application in our knives, handle fittings, sheaths and some electroplating on the blades.

We appreciate your offer to list our annual Knifemakers Guild Show in your Journal. The dates for the annual show are July 27-29, Crown Center Hotel, Kansas City, MO.

Buster Warenski, President
Knifemakers Guild
P.O. Box 214
Richfield, VT 84201 ■

ORGANIZATIONAL NEWS

PRESIDENT'S COLUMN

REPORT FROM THE BOARD MEETING, November 3-4-5, 1978, Boston

by Mary Lee Hu

Bill Neumann reports that the office has been moved to a room in his house and that his wife Marty, who has been an executive secretary, is working for us on an hourly basis—at present this is amounting to full time.

The computorization of our mailing list has been a nightmare; one company went bankrupt and we had to switch to another company this summer. There have been many, many errors, but Bill is hopeful that it is shaping up now. For everyone who has not received a Journal on time, or at all, our apologies. Please send your complaint and your correct and clearly legible name and address to the office. To all members who quickly rallied this summer and forwarded dues, a grateful THANK YOU! We are getting the office efficently organized so that we can begin to better serve the membership with a free flow of information.

The Nomination Committee is again asking for suggestions to fill positions becoming vacant next year. Elections will be held for Secretary/Treasurer (2-year term) — Bill was elected to fill out the remaining year of Joel Bagnal's term. Also for one Board Member (4-year term) — George McLean's term expires. A new Membership Committee (3-year term) will also be elected; this is voted on from a list of all Pro Members. Please send any suggestions RIGHT AWAY to: Chuck Evans, Applied Art Dept., Iowa State University, Ames, IA 50011; Lois Betteridge, 33 Lockhart Ave., Ottawa, Ontario, Canada, K2A 3R1; or Bob Mitchell, 1817 Colonial Rd., Jonesboro, AR 72401.

The exhibition of work submitted for the European exhibition opened November 8 at the Minnesota Museum of Art in St. Paul. It runs through December. Dr. Fritz Falk, director of the Schmuckmuseum in Pforzheim, came in mid-October and selected 131 pieces from the 185 sent by 39 members. The show will travel to Germany, Belgium, Holland, Norway, Finland, and England and probably Switzerland. It will be gone over 2 years. The Schmuckmuseum will be publishing a catalog in both English and German. It will have 80 pages with black and white illustrations of each metalsmith participating. These will be made available through the book department. Sandie Zilker has photographed the exhibition and a set of 140 slides will be available for purchase after being shown at our April conference.

Jim Meyers knows an attorney who has volunteered his time as a consultant to SNAG on questions of Patent, Trademark, and Copyright. Future issues of the Journal will give us some specific information on these areas.

There is a great deal of interest in the early development of our contemporary metal movement in North America. How about some contributions to a column on this subject? For instance, which were the earliest school programs? When did they start; who started them; and where did these people receive their training? Who started the Rhode Island School of Design shop where Carlyle Smith, who began the Lawrence, KS program, received some of his training? Where did Fred Miller, Ruth Pennington, Margaret DePatta or Arthur Vierthaler get started? Someone mentioned that the Boston Museum School was teaching holloware over 50 years ago! Were they? Who was teaching?

Mark April 19-21, 1979 on your calendars: SNAG IT IN BOSTON—HISTORICAL/TRADITIONAL/CONTEMPORARY. The conference hotel is very reasonable and full of character and it is located in the center of Boston, 2 blocks from the Commons and a subway stop. Trips are planned to the Boston Museum of Fine Arts for a special viewing of objects from their very fine permanent collection, a tour of Reed and Barton Silversmiths and possibility another manufacturing firm, and open houses at the metal programs of Boston University's Program in Artisanry, Massachusetts College of Art and possibly Boston Museum School. Because of a busy schedule, we will again have only two technical paper presentations. More is in the works, so plan to join us. SNAG will not organize any charter flights, bit if individuals book early, they can take advantage of a special Freedom Fare air rate. Registration information will be sent to all members early in the New Year as well as appearing in the February Journal.

Our best to all of you. ■

NOMINATING COMMITTEE REQUESTS NOMINATIONS

The Nomination Committee is again asking for suggestions to fill positions becoming vacant this coming year. Elections will be held for Secretary/Treasurer (2-year term), and one Board Member (4-year term). A new Membership Cimmittee (3-year term) will also be elected which is voted on from a list of all Pro Members. Send suggestions IMMEDIATELY to: Chuck Evans, Applied Art Dept., Iowa State University, Ames, IA 50011; Lois Betteridge, 33 Lockhart Ave., Ottawa, Ontario, Canada, K2A 3R1; or Bob Mitchell, 1817 Colonial Rd., Jonesboro, AR 72401.

SNAG HAS MOVED

Following Joel Bagnal's resignation as secretary/treasurer of SNAG and the election of William Neumann, SNAG has moved to Ohio. Please address all bills, inquiries, etc., concerning SNAG to: Bill Neumann, SNAG, 8589 Wonderland N.W., Clinton, OH 44216.

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NEW MEMBERS

We would like to welcome the following new members:

LIBRARY MEMBERS:
Headley Museum, Lexington, KY
Stellenbosch University, Stellenbosch, South Africa
Western Aust. Inst. of Tech., Western Australia
Tennessee Prep School, Nashville, TN
Newcastle College, Waratah, New South Wales
Holland College, Charlottetown, PEI
Louisville School of Art, Anchorage, KY
Pima Community College, Tucson, AZ
U. of Minnesota, Duluth Campus Library, Duluth, MN
Academy of New Church, Bryn Athyn, PA
RISD Metalsmithing, Providence, RI
Toledo Museum of Art, Toledo, OH

ASSOCIATE MEMBERS:
Vittoria Cozzi-Olivetti, Riverside, CA
Paula Pate, Rochester, NY
William Elderson, Parma Hts., OH
Benchmark, Inc., Austin, TX
Betty Harris, Tucson, AZ
David Edelstein, Peninsula, OH
Plunkett Works, Sharon, VT
Barbara Meadows, Nashville, TN
Marquita Wenning, Peach Tree City, GA
Stefanie Freydont, Nevada City, CA
Hale Anderson, Cedar Falls, IA
Ellen Dimsdale, San Francisco, CA

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Kener Bond, Rochester, NY
Ruth S. Roach, Naples, FL
Eric Russel, Philadelphia, PA
Dorothea LaGrange, Watertown, NY
Charla Thomas, Austin, TX
Dada Driver Cottonwood, AZ
Francis Laton, Apache Jct. AZ
Craft Assn. of Victoria, N. Melbourne, Australia
Vitti Gallery, Upper Montclair, NJ
Maureen Wicke, Harsens Island, MI
Fran Rubinstein, Cedarburg, WI
Judith Sharp, San Jose, CA
Paul Gross, Hanover, NJ
J. Zachary Dule, N.Y., NY
Michael Berezin, Cleveland Hts., OH
Richard D. Austin, Riverside, IL
Carol Shannon Hsu, Berkeley Spring, WV
Kenneth J. Aiken, Plainfield, VT
Ed Miller, Kent, OH
Helen W. Drutt, Philadelphia, PA
Jay Roach, Columbia, MO
Thomas L. Roach, Boulder, CO
William R. Roach, Park Rapids, MN
Anita Rosenblum, Flossmoor, IL
John and Karen Shreve, Marysville, WA
Norman A. Thomas, Birmingham, MI
Stanley S. Wolk, Takoma Park, MD
Union St. Goldsmith, San Francisco, CA
Judith Whitehead, San Francisco, CA
Elaine Brennick, Weston, MA
Louise Briggs, N.Y., NY
Sharon Church, Greenville, DE
Catherine Golden, Larchmont, NY
Robert Hamilton, Indiana, PA
Marita Paulick, Heidelberg, W. Germany
James F. Seavey, Rockport, MA
Myron Wechsler, N.Y., NY
Helen Bonzelaar, Grand Rapids, MI
Fredrick Hunter, Ann Arbor, MI
Kris Kanilovitch, Boston, MA
William Kayhoe, Richmond, VA
Ursula McKinney, Bethesda, MD
Willa Manor, Cape Canaveral, FL
Don Foree, Chapel Hill, NC
Rhoda Morris, Miami Beach, FL
Nancy Shapiro, Chicago, IL
Lynn Blum, Denver, CO
Jacques Dulin, Libertyville, IL

STUDENT MEMBERS:
Ashley Greenfield, Plainfield, NJ
Michelle Bergeron, Edinboro, PA
Elizabeth Sheets, Groton, CT
Lisa Strehl, Oak Brook, IL
Christina Rensburg, StellenBosch, South Africa
Linda Johnson, Naperville, IL
Marvin Jensen, Carbondale, IL
Kim Root, Brookline, MA
Rosemary McKinney, Olathe, KS
Nancy Stephenson, Atlanta, GA
Gayle Albright, Springfield, MO
Kristi R. Crennen, Fulton, MO
Ann Grundler, Hayward, CA
Rose Corcoran, Bloomington, IN
Norma E. Wilson, Springfield, MO
Nena Galloway, Springfield, MO
Cecil Herring, Geneva, FL
Woodrow Smith, Aubrey, TX
Jennifer Harris, Flushing, NY
Judyth Showell, Dagsboro, DE
Betty S. Melton, Greenville, NC
Janis Kerman Whyte, Montreal, Can.
Amy Bach, New Rochelle, NY
Jol Reese, El Paso, TX
Sharon Thompson, Minneapolis, MN
Gary Baun, Jackson Center, PA
Lee Ann Kleeman, Cross Plains, WI
Dennis French, Champaign, IL
Timothy Maddy, Keego Harbor, MI
Carole Cassalia, Madison, WI
Jeffrey Grieff, Seattle, WA
Karen L. Hall, Birmingham, MI
Susan Hamlet, W. Hartford, CT
Edna Hedges, Delavan, WI
Elizabeth Hintze, Ivy, VA
Cynthia Laws, Boston, MA
Cosima Lukashevich, Elkins Park, PA
Nancy McTague, Richmond, VA
Jane A. Nodine, Spartanburg, SC
Brenda Pennington, Richmond, VA
Gail B. Press, Stoughton, MA
Robin Rutherford, Dearborn, MI
Jane Bohan, Providence, RI
John Cogswell, Clintondale, NY
Paulette Davis, Chicago, IL
Shirley Kagan, New York, NY
Patricia Bergstraesser, Tallahassee, FL
Nancy Corwin, Madison, WI
Martha Gallagher, Bloomington, IN
Frances McGinnis, St. Paul, MN
Anne Owens-Stone, San Diego, CA
Gary Rathmell, Oakland, CA
Julie Siestreem, Arcata, CA
Stephen Walker, Syracuse, NY
Kathy Buszkiewicz, Bloomington, IN
Kenneth Doza, Festus, MO
Peggy Simmons, Chipley, FL
Jull Kubica, Long Beach, CA
Keith Lewis, El Paso, TX
Jane Martin,Philadelphia, PA
Charles Farmer, Denton, TX
Lorene Harriman, Saugus, MA ■

MEMBERS' NEWS

Carrie Adell served on Rhinebeck Craft Fair 13 and showed there also in June; she moved to San Francisco area in July. She participated in the San Francisco Art Festival in Sept; will be showing at Union Street Goldsmiths in San Francisco through Nov. and Dec., and, during the same time, at Horizon Gallery in Mill Valley, CA and S. MoBells Jewelry Gallery in San Francisco. Carrie will have work in National Invitational Metals Show at The Elements, Greenwich, CN, Nov. 21-Jan. 13. She was recently accepted as a juried member by the Metal Arts Guild of Northern California, and by the Marin Society of Arts, Marin County, CA.

Glenda Arentzen held an exhibit and sale of her work at ViHi Artisans Gallery in Upper Montclair, NJ. She was also "artist-in-residence" at Green Head Forge, Stonington, ME for two weeks in August.

Kim Bass and Bill Mickle will participate in a 3-man show in March '79 at the Images Gallery, Sarasota, FL.

Kenneth Bates participated in "Artist/Craftsmen: An In-Depth Look", held at the Cleveland Museum of Art. He also conducted two lectures at the museum concerning this exhibit.

John L. Biazo had a one-man show in multi-media copper, silver, gold, wood, bronze and stone at Pine Community College, Nov. 20-Dec. 8, in Tucson, AZ.

Debra Bowles, David Keens, Jan Brooks Loyd, Rachell Thiewes and Sandra Palmer Zilker and other SNAG members will be participating in "Fantasia of Christmas Ornaments," Nov. 24-Dec. 31 at the Tiara Metalsmiths Gallery, El Paso, TX.

Teresa Callahan was appointed to the Metalsmithing Dept. at the University of Evansville.

Chunghi Chou will be the juror for a national competitive exhibition of designs for architectural spaces at the newly formed College of Design at Iowa State University.

Katie Cleaver exhibited in a 3-person show, "Marriage of Mettles," at the Footprints Gallery, Manchester, CT.

Amy Davison and Rachelle Thiewes exhibited in "Symbols: Personal and Universal" held at Gallery of Contemporary Metalsmithing.

Arline Fisch will be judging at the 1979 Sterling Silver Design Competition.

Don Foree and Don Johnson have opened a new Workshop/Gallery at 106 Henderson, 2nd Floor, in Chapel Hill, NC.

Hannelore Gabriel taught at Penland School of Crafts during Sept. She was awarded "Best of Show" at the Boston Mills Artisans Fair.

Karen Gerstl will be exhibiting sterling and gold masks from Oct. through mid-Nov. at the opening show of Art Latitude, a new fine arts gallery in New York City; and from mid-Nov. through Dec. at "Wearable Art II," a show at the Sign of the Swan Gallery in Philadelphia, PA. This summer, she won 1st prize in jewelry at the Washington Square Outdoor Art Exhibit, NYC, and she had a piece voted into the special recognition display at the Berkshire Craft Fair, Stockbridge, MA. Karen also participated in the Northeast Craft Fair, Rhinebeck, NY, and Peter's Valley Craft Fair this summer.

Debra Lynn Gold has taken a new position as assistant professor at Illinois State University.

Randall Gunther held a one-man show of metal/jewelry at Bakersfield College in CA.

William Harper had an exhibit of enamels and cloisonne at Helen Drutt Gallery in Philadelphia, PA.

Harriet Rawle Hemenway was a student in Heikki Seppa's class at Haystack this summer; with the result that Jack Hemenway started building new forms in hollow table legs.

Yvette Kaplan is participating in a multi-media exhibition of qualified artist-members of the Concord (MA) Art Assn., Sept. 17-Oct. 29. She also has 3 pieces in the current show of The Brookfield Craft Center. (CT).

Ulle Lepasaar had a one-woman show at The Elements, Greenwich, CT.

James Malenda was featured in the magazine "Decade," a new magazine dealing with contemporary arts and culture.

Harold O'Connor held a Metalsmithing Workshop Series at the California College of Arts & Crafts. He gave a workshop in Oct. at: University of New Mexico, Albuquerque; Silver City Lapidary, San Diego, CA; California College of Arts & Crafts, Oakland, CA; Denver Community College, Red Rocks Campus, Denver, CO; Adams State College, Alamosa, CO. He also gave a workshop on Surface Techniques on Metals at the Craft Center in Worcester, PA. There was a review of Harold's recent work in "Peaking Out," a periodical looking at the Southwest, Aug. '78.

Brigid O'Hanaran received a merit award for work in the California Metals Invitational.

Colleen Lynch Pastore held an exhibit, "Here and There," at the Annex Gallery on Sept. 8-Oct. 7.

Florence Resnikoff, Doug Steakley, and Linda Weiss were merit award winners in the 1978 Designer-Craftsmen Exhibition in Richmond, CA. Florence was awarded the Pearson Memorial Prize in Jewelry in the "Designer Craftsman '78" Exhibition.

Alan Revere had work exhibited at: Crafts Design I, Mendocino, CA, and had a prize awarded to him; Festival 78, Livermore, CA, and received 1st prize for 3-D art; show at Concepts, Carmel, CA; and he was a juror at Designer/Craftsman '78 at Richmond Arts Center, Richmond, CA.

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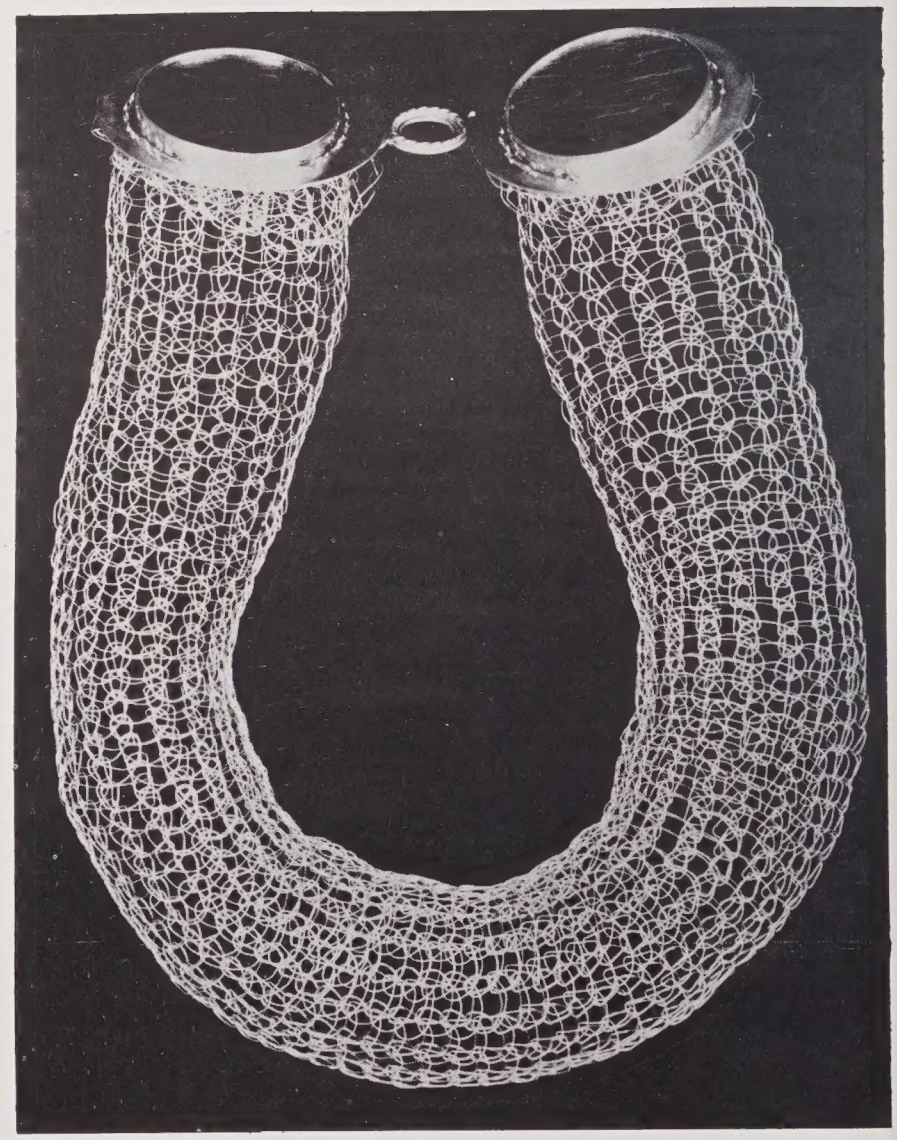
The *Goldsmith's Journal* contacted me early last spring asking me if I would be interested in putting some of my views into print. Since completing my book, *Tradition and Change: The New American Craftsman*, I have had some new inspirations, ideas, and doubts to add to the old ones that caused me to write a book in the first place. Part I of this article will briefly recap some of what I believe are the salient points in my book. The second part will broach some personal aspirations that I have for the whole field of contemporary crafts. It's very possible that these aspirations are not shared by craftsmen as a body corporate. But it's my party and I can cry if I want.

For ten years I seem to have found myself in the middle of debates revolving around the unnecessary confusion which often results from the usage of the words "art" and "craft." I undertook writing *Tradition and Change* feeling that I could, and should, attack this problem frontally. Most craftsmen never want to feel that their best efforts cannot stand as "art." I define art as any aesthetic insight made manifest through a creative shaping of materials into form. The word craft is not in opposition to the term art. The art world today needs a word which means "art-like but not art" to differentiate that which might truly be art from its many look-alikes. In the future, as in the past, a complex process that is highly democratic will sift through all the art milieu of every culture and in time finally elevate certain works to the level of masterpieces and certain artists to the level of masters.

My editorial response to creating a format for the book was to find absolutely new groupings for the artists I chose to write about. I was determined not to use media as a basis for categorization since this has always seemed like a superficial classification system to me. I wanted new groupings that would be based on the artist's common artistic creative motives and insights. I sincerely hope that my groupings will provoke thought and not just become quickie themes for craft symposia and grant proposals.

My first step in building a new classification system was not without precedent. I separated the crafts family tree right down the middle into two distinct branches. One branch is made up of craftsmen who are committed to the making of utilitarian objects fashioned after particular prototypes. They have generally been called production craftsmen. On the other branch their counterparts, the non-production craftsmen, concern themselves with the making of unique objects for special situations. In 1970, author-collector Lee Nordness wrote the book entitled *Objects U.S.A.*, which was the first publication to focus exclusively on the work of America's non-production craftsmen. Nordness ultimately called these craftsmen object makers, and the name stuck. Nordness's object makers created works that ranged from the satiric to the sensuous, and from the expressionistic to the purely ornamental. The forms and ideas in today's non-production crafts have proliferated to the point that they can no longer be described under one inclusive label.

The mainstream of non-production crafts has evolved from the tradition of elegance. This tradition can be traced back into Western and Eastern crafts for centuries, but it assumed its present form in the United States in the time of Louis Comfort Tiffany. This tradition is carried on by a centrist group of artists who have always been called fine craftsmen. Historically, the fine craftsman made chalices for the church rather than iron door latches for the ordinary home. The blacksmith in the streets always had a goldsmith counterpart in the service of the court. I found that much con-



These monumental gates by Albert Paley are fine examples of large scale metalwork in public spaces. Renwick Gallery, Smithsonian Institution, Washington, DC, wrought iron, h. 90½", w. 72", 1975. –photo by R. Arnold (top)

Combining historical and contemporary images, jeweler Arline Fisch epitomizes the sophistication of the fine craftsman. Spool-knitted fine silver and Azure antique glass. Diameter of tube 2", 1974.

Harriet Rawle Hemenway was a student in Heikki Seppa's class at Haystack this summer; with the result that Jack Hemenway started building new forms in hollow table legs.

Yvette Kaplan is participating in a multi-media exhibition of qualified artist-members of the Concord (MA) Art Assn., Sept. 17-Oct. 29. She also has 3 pieces in the current show of The Brookfield Craft Center. (CT).

Ulle Lepasaar had a one-woman show at The Elements, Greenwich, CT.

James Malenda was featured in the magazine "Decade," a new magazine dealing with contemporary arts and culture.

Harold O'Connor held a Metalsmithing Workshop Series at the California College of Arts & Crafts. He gave a workshop in Oct. at: University of New Mexico, Albuquerque; Silver City Lapidary, San Diego, CA; California College of Arts & Crafts, Oakland, CA; Denver Community College, Red Rocks Campus, Denver, CO; Adams State College, Alamosa, CO. He also gave a workshop on Surface Techniques on Metals at the Craft Center in Worcester, PA. There was a review of Harold's recent work in "Peaking Out," a periodical looking at the Southwest, Aug. '78.

Brigid O'Hanaran received a merit award for work in the California Metals Invitational.

Colleen Lynch Pastore held an exhibit, "Here and There," at the Annex Gallery on Sept. 8-Oct. 7.

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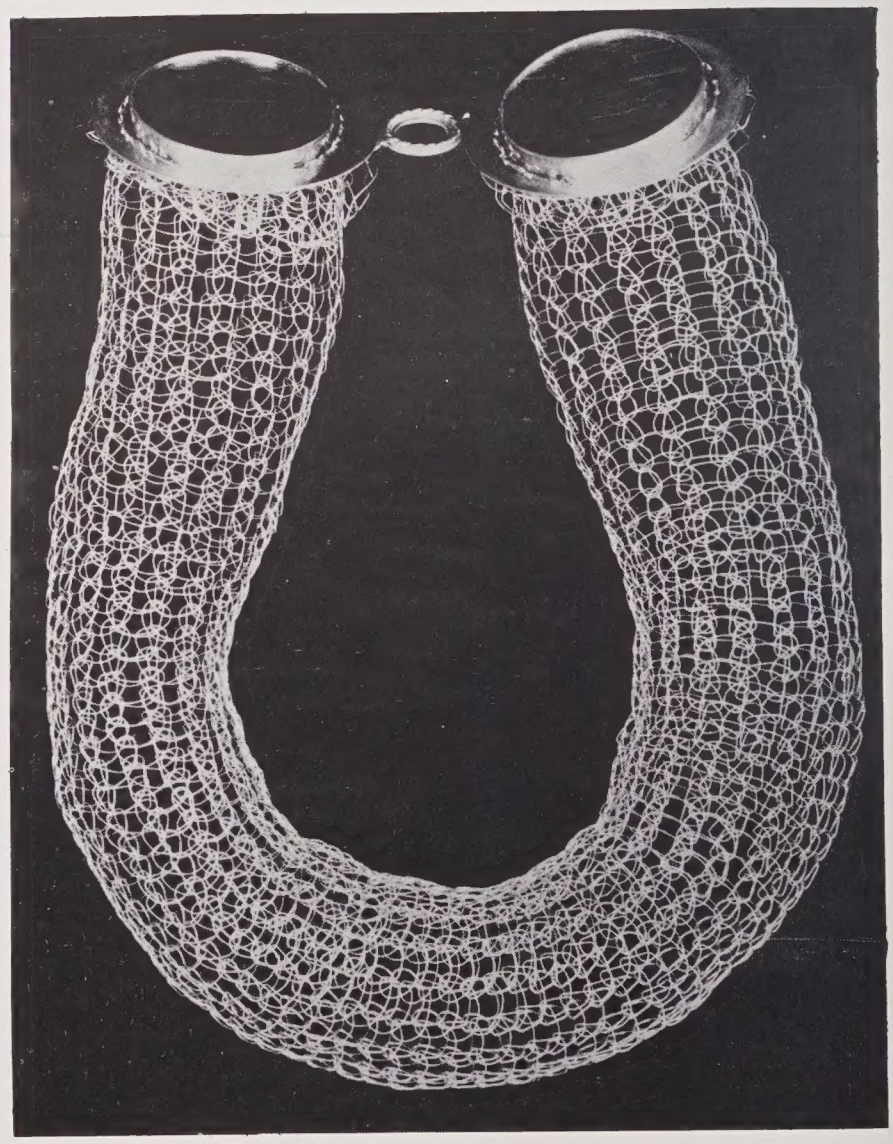

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NAME _____ ADDRESS _____
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Check one and include check, made payable to SNAG (DO NOT include check if applying for pro-membership). To join SNAG it is not necessary to be a resident of North America (except as a Pro-Member).

[ ] $15–Student Membership (NOTE: Student members must state school attending and degree sought.)
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HELPFUL HINT
by Hannelore Gabriel

I make models for sheet construction out of aluminum pie plates or pizza plates, instead of paper. If bigger pieces are required, I use 3'x2' aluminum plates that are discarded by newspaper printers. The larger plates are a little heavier than pie plates, but they can still be cut with scissors. Bending is easy and permanent. ■

HELPFUL HINT
by Don M. Johnson

When using styrofoam chips in shipping works to exhibit, place them (chips) in a loose plastic bag and then pack around the object. No more "stick to everything." ■

HELPFUL HINT
by Jules Warpiuk

Use a BIC lighter as a sparker for the torch – it works great and lasts forever. ■

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This project is partially sponsored by a grant from N.E.A.

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Deadline dates for submitted material will be 30 days prior to issue date. Projected issue dates are: Feb. 1, Apr. 1, June 1, Aug. 1, Oct. 1, and Dec. 1.

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GOLDSMITHS JOURNAL assumes no responsibility for any products, sources, exhibits, information, etc., that is printed because of the diverse nature of our sources. ■

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**REPORTERS WANTED—If you are attending or hosting an exhibit, conference, lecture, etc., and would like to provide the JOURNAL with relevant information, please write us. We constantly need your assistance in collecting information.

**NEEDED—People to write small articles and reviews. If you have a special and/or interesting subject or specialty, please write GOLDSMITHS JOURNAL so that other members can share the benefits of your knowledge. We also need information, sources, helpful hints, etc.

If you know of, or have on your staff, a talented art historian who would like to write metalsmithing/jewelry articles or reviews, please encourage them to do so. Also, please give us their names and addresses and we'll contact them. Thank you!

EARLY JOURNAL REPRINTS NOW AVAILABLE

Many people have requested back issues of the Newsletter, Golddust (the beginnings of the Journal) and the Journal. Issue 1 is dated Aug. 1975 and is composed of six pages. Subsequent issues are bi-monthly and slowly increase in size until Issue 18, dated June 1978, containing 48 pages. Issues 1-8 cost $1.50 each; issues 9-10 cost $2 each; issues 11-20 cost $3 each. Reprints are only available to members. Send appropriate order and check (made payable to SNAG) to Mark Baldridge, Longwood College, Farmville, VA 23901. ■

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